A FALCON GUIDE®

FORAGING NEW YORK

Finding, Identifying, and Preparing Edible Wild Foods

"WILDMAN" STEVE BRILL

A FALCON FIELD GUIDE

FORAGING NEW YORK

Finding, Identifying, and Preparing
Edible Wild Foods

“Wildman” Steve Brill

FALCON GUIDES

GUILFORD, CONNECTICUT

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To all the wonderful people who attended my foraging tours over the decades, spread their love of nature, and helped make our planet a greener place.

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ACKNOWLEDGMENTS

I want to thank my daughter, foraging expert Violet Brill, for her curiosity and perceptiveness in the field, and in the kitchen. She discovered new ways to use several of the plants in this book that would never have occurred to me, and also contributed recipe ideas starting from when she was a very young child.

I also want to thank Wisteria, Violet's parakeet, for flying onto my shoulder, talking into my ear, and dictating everything I should write in this book!

INTRODUCTION

ABOUT FORAGING

Dozens of edible wild plants grow, unnoticed, in virtually every possible habitat throughout New York State. Many of these are so common, or even invasive, that people destroy them as "weeds," although, in fact, they're more tasty and nutritious than anything you can buy from a store.

Here's how you can discover and identify them, harvest them ecologically and safely, and use them to make delicious, healthful recipes, as well as home remedies. This is based on my experience as a naturalist and an environmental educator who has been leading thousands of foraging tours. I've worked with the public, and with schools, day camps, museums, nature centers, land trusts, farmer's markets, teaching farms, parks departments, and other organizations throughout the Greater New York Region since 1982. I' also draw on extensive research, and collaboration with other foragers.

You'll learn to enjoy our incredible bounty of wild herbs, shoots, greens, fruits, berries, roots, nuts, seeds, flowers, and even seaweeds in the field and in the kitchen. These species are really good to eat and practical to collect, not the ones that take forever to collect and process and result in tiny amounts of "food" that tastes so bad, you'd wish there was still less!

I chose these species not only because they're the ones I know best, but also because they're common, widespread, and easy to harvest ecologically. Also, they're fun and easy to use for making some great meals.

GROUND RULES

The first thing to know about foraging is that you need to identify anything you're going to eat with 100 percent certainty *before* you eat it. Each plant has key identifying characteristics that let you distinguish it from all other plants. When you think you've found a plant from this book, carefully go over every

single characteristic the plant should have at the time of year you're collecting it, one by one. If the characteristics aren't there, don't eat the plant. You can keep following it throughout the seasons as different features appear and try it later on, when you're completely sure you have the right plant.

POISONOUS PLANTS

Some poisonous plants resemble edible plants. I warn about these in the text and describe the features that distinguish the two species. Seek out those attributes. If you're a novice, learn the most common species that lack toxic look-alikes and follow them through their life cycles. If you're not sure, be patient.

No one was teaching foraging when I began in 1982, so I had to learn everything by myself. Using field guides full of inaccuracies and mistakes, written by botanists who didn't forage or cook, I was still able to identify Kentucky coffee tree and greenbrier (see p. 82) right away, but had to wait almost 2 years before I could eat daylily (see p. 23) shoots safely, and even longer before I found out that cornelian cherries—which no foraging book covered—were actually edible.

Be especially careful not to collect a different plant that's growing along with an edible species. It doesn't help if the characteristics are completely different if you don't notice that you've picked two different species. (See the story under lamb's quarters [p. 127] for an extreme example of this.)

POLLUTION

Plants can pick up pollution from the environment. Quickly growing leaves and stems are good at this, while fruits, nuts, and seeds pick up the least contamination.

Avoid obvious polluted places. Heavy metals tend to settle within 50 feet of heavy traffic and persist in the soil, even decades later. Arsenic was used before DDT, for spraying fruit in orchards, and that's still around in those places too. Railroads spray toxic herbicides around their tracks, so avoid

foraging near those. Golf courses are just as bad. Disheveled-looking old buildings, which look like sites where people dumped all sorts of toxic substances, are obvious places to avoid. The same is true in the vicinity of farms that use toxic chemicals on their crops. Polluted waterways should also be avoided.

Rinse off everything you take home under running water, and use common sense to avoid foraging from sites that are likely to be contaminated. Most of the plants in this book are so common, once you've learned them, you should be able to find them in unspoiled natural habitats.

PLANT NAMES

Common names are ambiguous and vary regionally, so two different plants may have the same name. Scientific names are hard to memorize, but you can look them up in this book and use them as references, to make sure you don't get poisoned by nomenclature! Family names are included too, as members of plant families have some common characteristics, especially their reproductive parts (which is why they were put into one family in the first place), making it easier to get a handle on all the botanical diversity you're going to encounter. All members of the legume family, for example, have pods that look recognizably like a variant of peapods.

SEASONAL CHANGES

When you look at the info about plant seasons, keep in mind that these periods are relative. Spring starts later, and autumn and winter come sooner, in northernmost regions and sectors of higher elevation, for example, and—as everyone but politicians knows—long-range climate change is altering plants' seasons too, as we heat up the atmosphere with massive carbon dioxide emissions. When I began foraging on a colder planet in 1982, spring plants appeared close to a month later than they do now, and fruits ripened earlier or later too: For some species, an earlier spring gives the flowers that produce the fruit a head start. For other species, a longer autumn stretches out the time

during which the fruit is available. Hopefully foragers and other conscientious people who are in touch with the earth will force politicians to change their destructive ways!

HABITATS

While I list all the habitats where plants grow, some places are better than others. A plant that can grow in partial shade may do even better in full sunlight, and one fruit tree may be genetically constituted to have better-tasting berries than the one next to it. Often, those with the largest, most abundant, and brightly colored fruits are the best. Again, look around and sample before you start collecting.

THE DANDELION POLICE, FORAGING, AND CONSERVATION

It's also good to collect where it's legal to do so, although this can sometimes be difficult. Check out my arrest for eating a dandelion in Central Park (see p. 45). As you'll see, in this case, my civil disobedience paid off, enabling me to teach foraging and appreciation of nature to many thousands of adults and kids in the ensuing decades. The bottom line is that no edible "weeds" have ever been damaged as a result of my activities. Hopefully readers will be able to avoid confrontations with self-serving public officials!

Foraging is good for the environment. Picking small proportions of very common plants where they're common has no detrimental environmental impact whatsoever, but it naturally motivates people to protect the habitats where these species grow, and, by extension, other ecosystems and the rest of our planet. Children who first became aware of the natural environment and the science that illuminates it while attending one my tours with their school class, or with parents, e-mailed me decades later, writing how this activity first sparked their interest in nature and conservation. Some of them have become ecotourist guides, science teachers, or dedicated conservationists.

NUTRITION

Wild foods are usually more nutritious than store-bought foods. Wild plants depend on nutrients and other helpful substances (phytochemicals) for survival, while store-bought plants are bred to be larger, heavier, less perishable, and more beautiful. Therefore, if you put the store-bought produce into a juicer, you get more juice. Juice is mostly water, so these plants have a greater proportion of water to nutrients, phytochemicals, and flavor compared to wild plants.

PLANTS FOR MEDICINE

Wild plants, of course, have been used for medicine ever since humans first walked the earth. Plants use such substances to take care of many of their needs, from making food to defense against herbivores, so they're replete with biologically active chemicals, which people use to their advantage.

These can be both helpful and dangerous. Using plants to treat mosquito bites and tummy aches is fine. (It also works!) Using them to treat symptoms of serious illnesses, where you don't even have a diagnosis of the cause of the symptoms, can be disastrous. Consult a qualified practitioner for anything that might be a major problem, and then use herbs if they're going to be helpful.

RECIPES AND FORAGING

Once you've identified and harvested your wild food, what can you do with it? Some plants are great to eat in the field. Eating fruit berries on the spot is as much fun for adults as it is for kids. But I've also provided you with what I think are very tasty and healthful recipes, from simple to complex, for most of the plants I've covered. Here's how my approach of combining gourmet cooking with nutrition came to be.

Decades ago, the scientific indications that a diet high in processed foods; refined, concentrated, simple carbohydrates (sugar and white flour); and animal fats—which is also necessarily a low-fiber diet—is unhealthful looked very compelling to me. The early deaths from heart disease and cancer, of

family members in my parents' and grandparents' generations, only reinforced this. In consequence, I've been an organic whole-foods vegan since 1990. I also swim laps, bicycle, do rapid walking, practice yoga, use light weights, and meditate regularly. Chances are it's this lifestyle that's keeping me fit and healthy as I approach my late sixties.

The scientific evidence that eating what Big Food wants us to buy is fueling the current epidemics of obesity, diabetes, heart disease, strokes, and cancer is now greater than ever. The inhumane treatment of factory-farmed animals and the accompanying harm to the environment caused by inefficiently growing plants to feed animals are additional factors influencing my choice of lifestyle.

So the recipes in this book are all vegan, although they do include lamb's quarters, sheep sorrel, and cattails! I use healthful, whole ingredients, some of which you may have to buy in health food stores or online, just as you'd go to specialty stores or sites if you're going to make Japanese or Indian recipes. I've melded traditional concepts from cuisines from around the world, plus modern culinary ideas, with wild foods and vegan ingredients in new ways to make delicious, healthful recipes.

I'm not trying to force anyone to adopt my lifestyle, but I think the idea that you've to give up eating tasty food to be healthy is wrong. You can make healthful and tasty meals, significantly lowering your risk of contracting these diseases of civilization, and have fun in the process. In other words, you can have your cake and eat it too!

If you try these recipes, according to what people on my tours tell me when I share samples of dishes made with the plants I have found, they taste really good, no matter what kind of foods these people normally eat (or maybe they're just being polite, to ensure that they're still alive when the tour ends!). Whether my ideas of preventing illness are right or wrong, I hope you enjoy the results of my decades of experimenting with wild food recipes!

Wild foods make these dishes special, but the recipes still work very well with store-bought ingredients, so I offer such substitutions whenever possible, in case you haven't found the wild food that's called for, or it's out of season.

ORGANIZATION OF THIS BOOK

As much as possible, the plants in this book are grouped both by food groups and season, starting with the cold-weather shoots and greens that come up in early spring and often again in fall, progressing to flowers that mostly span from early to mid spring. Then, I move to warm-weather veggies, some of which may persist though fall. Fruits and berries, which start toward the end of spring and keep coming until late fall, appear next. They're followed by nuts and seeds, in season, mainly in autumn. Subsequently come root vegetables, which are at their peak both in autumn and early spring, but persist through the winter if it's warm enough. I arbitrarily end with seaweeds, which are mostly in season all year.

Of course, not all plants fit into neat categories. Frustratingly, some plants are good to go all year. Wintergreen (see p. 255), for example, provides leaves for making tea all year, plus berries that are ripe from autumn sometimes up to early spring. Since berries are more spectacular than tea, I arbitrarily include this species at the end of the fruit section. Sassafras (see p. 2) I simply place in the beginning of the book, since you can start foraging for them in the winter.

FINAL HINTS

Study the plants you may find in the habitats you're about to explore in advance. Look at the pictures carefully. You may spot some of the plants right away. Others may take time to recognize.

Teaching myself, I first recognized some plants when they were in flower and easiest to identify, although not necessarily in an edible stage. Every subsequent year, I was able to spot these plants earlier and earlier, until finally I'd notice their first traces as they emerged from the soil.

Of course, if there's a foraging teacher in your area, study with him or her. I've found that people who attend about ten of my tours in different parks through the course of nine months become so familiar with the vast majority of the wild foods in the region that I have a hard time showing them two new species in the course of a subsequent 4-hour tour. Under these circumstances, learning to become an expert forager takes about the same amount of time and

effort as learning to drive a car, an order of magnitude easier than mastering a musical instrument or martial arts, for example. I hope these suggestions and the information in this book make learning to forage easier and more fun for you!

Early Spring Shoots and Greens

These are the first plants to appear when winter ends, and many of the cold-resistant greens are the last ones you'll be able to collect in late autumn, as they come up for a second time and they're cold-resistant by necessity. If winter is exceptionally warm, some of these will continue to grow even then. Some of these plants spread out their leaves close to the ground, radiating in a circle from the root system, in a configuration called a basal rosette. This maximizes sunlight and minimizes cold. Later on, when it's warmer, some of these develop stems, reaching upward toward the sun.

Other plants form shoots, stems with immature leaves wrapped around them, growing upwards toward the sunlight right away. These are less likely to reappear in autumn.

Sassafras
(*Sassafras albidum*)

Family: Lauraceae, the laurel family
Other names: White sassafras, gumbo filé, cinnamon wood, mitten tree, ague tree, saxifras, tea tree

This very common, medium-sized native tree, 30–40 (sometimes up to 80) feet tall, smells lemony or like root beer when broken. The irregularly furrowed brown bark, red-orange underneath, has vertical ridges and horizontal slits. The many green, minutely hairy, lemon-scented saplings, with upward-curved, candelabra-like tips, only reach maturity in full sunlight.

The smooth, stalked, alternate, toothless, medium-sized leaves may be oval, one-lobed, or two-lobed. Tiny, inconspicuous, five-petaled, long-stalked, radially symmetrical yellow flowers bloom on small racemes in the spring, while the leaves are forming. Female flowers become small, blue-black, ovate fruits, about half an inch long, set in long-stalked, red cups.

Look for sassafras in sunny and partially sunny habitats, on dry acidic soil, in old fields, along the borders of woods, in open woodlands, on bottomlands,

in thickets, along fencerows and roadsides, on lower slopes, in urban parks, and sometimes along residential streets, anywhere in the eastern United States and Ontario.

Available whenever the ground isn't frozen, especially after it's rained, pull up the smaller, renewable saplings' roots (or use twig). Young, green leaves are good from late spring into mid-summer.

Simmer the scrubbed roots (which you can reuse), covered, for 20 minutes for tea. Chill this, and stir in chilled sparkling water and a sweetener to make root beer. The root's cambium, without any bark, fresh or dried, makes a superb sweet seasoning, like cinnamon, root beer, anise, and ginger. The young, light green leaves are edible raw, great in salads and sandwiches too. Dried and ground into *filé powder,* they thicken soups, creating gumbos. Stir 2 tbsp into a completed pot of soup to serve six. The soup thickens instantly. Puréeing the leaves with some of the broth in a blender before returning it to the the soup works too.

Sassafras contains oils, fats, resins, wax, camphor, albumen, starch, gum, lignin, tannin, salts, safrole, and sassafrid. Native Americans used the tea as a blood purifier (detoxifier) and spring tonic, and American herbalists used it as a diaphoretic for colds and fever, to treat chronic arthritis, gout, high blood pressure, kidney problems, stomachaches, eczema, and other skin diseases. Compresses have been applied to infections, burns, and poison ivy rash, and a distilled aromatic oil has been used for menstrual obstruction and childbirth, although it hasn't been tested scientifically.

Caution: The FDA (Food and Drug Administration) has removed sassafras from the market. It can increase your risk of liver cancer, if you take the equivalent of 200 cups of tea made from artificial concentrate every day for only 2 years, and you just happen to be a rat! Rodents metabolize safrole differently from humans. No human has ever gotten sick from drinking sassafras tea. Furthermore, beer, which due to its alcohol content is fourteen times as carcinogenic to humans as sassafras is to rodents, is still on the market. So the experiment proves two important points:

1. There are more beer lobbyists in Washington than sassafras lobbyists.
2. There are lots of rats in the FDA!

Also, a population study indicated that the tea lowers the risk of liver cancer!

RECIPE

Vegan Sour Cream

Here's an especially good vegan version of sour cream you can use the same way you use the dairy version.

2 cups silken tofu, well drained

¼ cup lime juice

1 tbsp brown rice vinegar or wine vinegar

¼ cup lecithin granules

2 tbsp sweetened miso coating (see below)

2 tbsp fresh dill weed

2 tbsp vegan butter substitute or flaxseed, corn, or olive oil

1. Puree all ingredients in a food processor, or with a whisk or fork.

Makes 2⅓ cups

Preparation time: 5 minutes

RECIPE

Sweetened Miso Coating

Here's a very tasty condiment you can use to coat vegetables before baking them, as a spread or to add flavor to potatoes, grains, soups, or stews.

2 cups white miso

½ cup sesame oil

½ cup pine nuts or lecithin granules

8 Medjool (soft) dates, pitted

2 tbsp liquid stevia or other sweetener

2 tsp freshly grated orange rind or orange extract

½ tsp dried sassafras cambium, ground; or 1 tsp powdered cinnamon

2 tsp slippery elm powder (available in herb stores and online), or 1 tsp maple extract

2 inches of the scrapings from the inside of a vanilla bean, or 2 tsp vanilla extract

1. Purée all ingredients in a food processor.

   Yields: 3 cups

   Preparation time: 5 minutes

Chickweed
(*Cerastium* spp.)

Family: Caryophyllaceae, the pink or carnation family
Other names: Chickenwort, craches, maruns, winterweed (*Stellaria* spp.), mouse-ear chickweed

This small, sprawling European herbaceous plant, which often forms dense mats along the ground, gets its name because chickens love it. A row of fine hairs, grows along the slender stem. The tiny, opposite, spade-shaped to oval leaves are smooth edged and hairless. Common chickweed (*Stellaria media*) has leafstalks, while star chickweed (*S. pubera*) lacks them. Tiny white flowers bloom in early spring and late fall. The "V"-shaped petals are split so deeply, you could count them as ten, although there are only five. Surrounding the petals are five tiny, green sepals. A tiny, ovate, stalked capsule, contains even smaller oval, yellow-brown seeds. Mouse-ear chickweed (*Cerastium* spp.) is

quite similar to common and star chickweeds, except that it's fuzzy everywhere.

This annual tolerates the cold. Best in late fall and early spring, it also grows in warm, snow-free spots in the winter. Chickweed finishes its life cycle by mid-spring, sets seed, and dies; but the seeds can germinate in the summer and new growth can occur then; so you may find it any month of the year. However, when it produces seeds and starts to die, it becomes stringy and tastes grassy.

Chickweed grows in full sun and partial shade, on lawns, in parks, and along trail- and roadside, although I've found it under trees where some sunlight penetrates in the summer.

Several plants look enough like chickweed that you may collect them along with your chickweed if you're careless: Doorweed (*Polygonum aviculare*) grows in the same habitats as chickweed, but in a basal rosette; and with alternate, not opposite leaves; joints on the stem; and no row of hair on the stem. The flowers are different too. It's nonpoisonous, but tastes like wire. Cooked, it tastes like cooked wire!

Spotted spurge (*Euphorbia supina*) has opposite leaves and trails along the ground like chickweed, but a blackish line runs the length of each elliptical leaf, and the white flowers are nothing like chickweed's. A distinct, white sap pervades the plant, oozing out of the cut stem. This looks poisonous, and it is!

The scarlet pimpernel (*Anagallis arvensis*) looks the most like chickweed, creeping along the ground, with opposite or whorled, oval leaves, ¼–1¼ inches long. However, the leaves are shiny and, yet again, the row of hairs running along the stem is missing. The flowers are scarlet-orange. This plant is also poisonous, especially if you're French. (Download the hilarious movie of same name, and you'll see why!)

Look for the thickest, greenest mats of pure chickweed before collecting, to avoid having to sort out grass or the like. Grab bunches in one hand and cut it at the base, or hold down the bottom of the bunch with one hand and tear out the rest with the other hand.

You can eat everything but the roots, raw or cooked, and it tastes like corn or corn silk. Chop it into bite-sized pieces and add it to salads or sandwiches, or any recipe that calls for sprouts. Cook it in any recipe that calls for greens, adding it 5 minutes before a recipe is done. Don't overcook.

Waterless steaming works quite well too. Place the rinsed, drained, and chopped pieces in a heavy saucepan and cook, covered, over low heat until just wilted. Don't add water. Season with any seasoning you prefer: Garlic sautéed lightly in olive oil, plus tamari soy sauce, is great, as are Thai seasonings, such as lemongrass, basil, a hot pepper, ginger, and salt, plus some coconut oil.

Chickweed is loaded with nutrients, such as vitamins C, A, D, folic acid, riboflavin, niacin, and thiamin; and minerals including calcium, magnesium, potassium, manganese, zinc, iron, phosphorus, sodium, copper, and silica. Not bad for a garden “weed.”

This is a very important plant in traditional herbal medicine and it's completely safe, so long as you're not suffering from an untreated serious disease. In the past, herbalists had people who'd survived serious illnesses drink a chickweed infusion, or a soup with chickweed, to rebuild their strength. With bodies greatly depleted of vitamins and minerals, due to the initial illness, they'd be immunocompromised, and chickweed would replace these essential nutrients, speeding up recovery.

An infusion of the whole aboveground plant is also a safe, gentle diuretic. You can also chop up the plant and apply it topically for skin sores and irritations.

RECIPE

Savory Chickweed Dip

Conceived by my then-eleven-year-old daughter, Violet Brill, this somewhat spicy dip features the spectacular flavor of chickweed, enhanced by the other seasonings. Use it with chips, celery, or anything else that's dipable! We first made this in January, during a mild winter, when this hardy but delicate plant was thriving. The onion is soaked to make it less spicy—important if you're going to serve the recipe to kids!

4 cloves of garlic

2 tbsp red onion, finely chopped and soaked in water for 30 minutes, then drained and patted dry with paper towels

2 cups chickweed or other greens

2 cups corn chips, coarsely ground

2 tbsp white (mellow) miso

1 tbsp vegan butter substitute or olive oil

1 tsp coarse salt, or to taste

½ tsp wild carrot seeds or celery seed, ground

½ tsp paprika

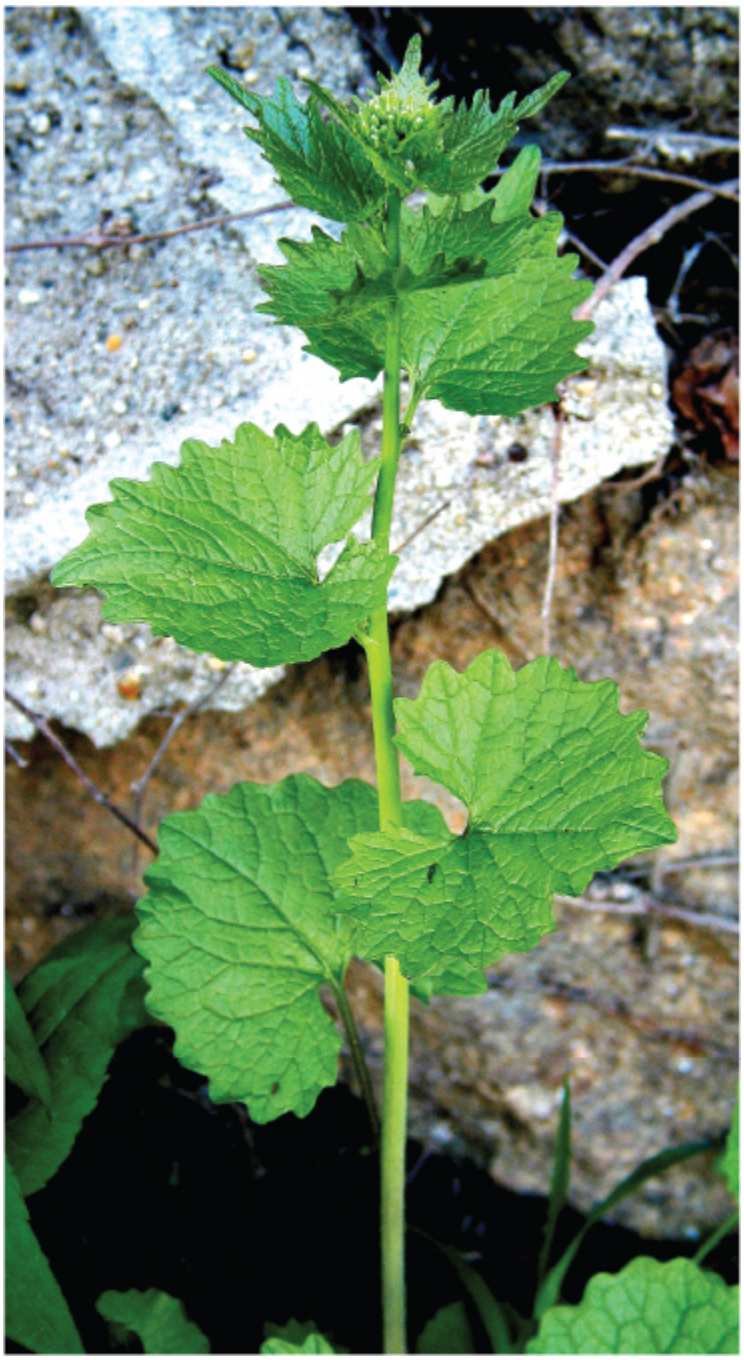
¼ tsp nutmeg, ground

1. Chop the garlic in a food processor.
2. Add the chickweed and chop.
3. Add the remaining ingredients and process until well mixed and finely chopped.

Yields: 2¼ cups

Preparation time: 40 minutes

Garlic Mustard
(*Alliaria petiolata*)



Family: Brassicaceae or Cruciferae, the mustard, crucifer, or cabbage family

Other names: Jack-by-the-hedge, garlic root, hedge garlic, sauce-alone, Jack-in-the-bush, penny hedge, hedge garlic, poor man's mustard

This European biennial is one of the most common and invasive of wild foods, with many different forms. It begins in very early spring as a nondescript, flag-shaped sprout, with a single slender, reddish stalk about 2 inches in height and

one strap-shaped leaf about ½ inch long. The sprout, as well as the subsequent leaves, stem, flower buds, and flowers, all emit the distinct smell of garlic when crushed, a good defense against insects (unless Italian insects find it, when all bets are off!).

The sprout soon develops into a basal rosette, supported by a fleshy, white, horseradish-scented taproot that increases in size in proportion to the basal leaves. Dark green, kidney-shaped, scallop-edged, deeply veined, and long-stalked, the basal leaves sometimes grow up to 5 inches across.

The basal rosette persists throughout the first year, persevering through mild winters, or returns in early spring of the second year; but by mid-spring of the second year, a single, erect, slightly hairy stem grows 1–3½ feet tall. Its deeply veined, triangular, alternate leaves are more pointed and larger-toothed than the basal leaves.

A small, broccoli-like flower bud develops into clusters of four-petaled white flowers, each ⅓ inch across. The petals of the alternating flowers form a cross, like all mustards, and these become long, slender, cylindrical, alternating seedpods called siliques. They are 1–1½ inches long and curve upward from long stalks.

The plant dies in its second summer, leaving behind the short-stalked, needle-shaped siliques, which are now dry and whitish. The frequent large stands of this invasive plant you encounter produce so many of these needles, you'd think you were in the South Bronx! The seedpods split lengthwise to disclose two rows of tiny, oblong, blackish, finely lined, spicy flavored seeds, guaranteeing further proliferation of this delicious nuisance.

Garlic mustard is a highly invasive species that takes over woodlands, disturbed habitats, parks, roadsides, trail sides, edge habitats, and wetlands. One reason it's so successful is that it excretes fungicides from its roots that inhibit the growth of fungi that support tree growth. Garlic mustard grows throughout northeastern North America, much of the middle of the country, and in the Pacific Northwest.

Each part of the plant has its own season. The sprouts come up in early spring. The basal leaves are available all year if winter isn't harsh. The leaves of the leafstalk, the top of the leafstalk, the flower buds, and the flowers are good to go in mid-spring. The roots are good to use in the fall, during winters mild enough for the leaves to survive and mark their location, and in early spring. The seeds are most abundant in mid-summer, but some remain into autumn.

Pinch off the sprouts and handfuls of basal leaves with your fingers. Strip leaves, tender upper stems, flower buds, and flowers from mature plants. You can sometimes uproot the taproot under the basal rosette with your fingers too; but if it doesn't come up readily, use a shovel or trowel. Break off the dead plants with their seedpods and stuff them into a large paper bag. Rub out the seeds over a tray at home, blow away the chaff, and store the seeds in a jar. They last indefinitely.

Add the young basal leaves and sprouts, which taste like garlic with an overtone of bitterness, to salads and sandwiches. They're excellent in pesto.

The bitterness concentrates when you cook them and they shrink, so use them sparingly in recipes that call for greens. They cook in about 5 minutes. The mature basal leaves are more bitter than the young ones, but roasting them with oil, salt, and spices; or in a coating of white (mellow) miso, olive oil, and lecithin granules or pine nuts, with sweet or savory spices, makes them delicious.

The immature leaves on the stem are spicy, less bitter than the basal leaves, garlicky, and a little sweet. They're even better in pesto, salads, sandwiches, and cooked veggie dishes than the basal leaves.

Use the taproots just like horseradish. Both roots contain the same glucosinalates, which turn into highly volatile oils called isothiocyanates when the plant is cut, making it spicy. The grated or chopped root is wonderful in dips, spreads, and dressings, and in bland dishes like beans, potatoes, or pasta. Heat destroys the flavor, so add them to cold dishes. Oxygen destroys the flavor too, so store the roots—chopped, grated, or whole—covered in vinegar. The root freezes well, since it's adapted to do this in nature during the winter.

The seeds are quite spicy, like crunchy horseradish with an overtone of sunflower seeds. You don't have to grind them, like store-bought mustard seeds, and they add texture to recipes, raw or cooked. Use them in the same kind of recipes as the roots, sprinkle them on salads, or bake them into breads, like fiery caraway seeds. You can also grind them in a blender, covered with vinegar, to make prepared mustard. Add salt or white miso, and the same kinds of additional spices used in traditional prepared mustard recipes.

Calling some products superfoods is mainly a marketing gimmick; but if there were such things, garlic mustard would qualify as one. It provides vitamins A, C, and E; omega-3 fatty acids; some B vitamins; plus the minerals potassium, calcium, magnesium, copper, iron, manganese, and selenium. The sprouts, like other microgreens, have four to six times the concentration of nutrients of the mature plant.

The leaves also contain plant estrogens adapted to interfere with insect reproduction, and also inhibit human and synthetic estrogens from signaling human cells to proliferate, thereby reducing the risk of cancer. Furthermore, the sulfur-containing amino acids that produce the garlic aroma dilate the blood vessels, just as garlic does, reducing the risk of cardiovascular disease; although because of this effect, people with low blood pressure should check their blood pressure after eating the leaves, to make sure it's not exacerbating the condition.

Garlic mustard isn't used much in traditional herbal medicine, but people have used an infusion of the leaves as a diaphoretic for fevers, to stimulate the immune system, and for bronchitis. They've heated the root in oil and applied this ointment to the chest for bronchitis. This hasn't been tested, although the juice from the leaves inhibits the growth of gram-negative bacteria, such as those that cause typhoid and gastroenteritis. Yet again, more study is called for. The crushed leaves have been applied to insect bites and stings, although jewelweed and common plantain are more effective.

RECIPE

Garlic Lover's White Bean Dip

Wild seasonings (for which you can substitute store-bought ones) make this dip so tasty, you may not be able to stop to open a bag of chips for scooping before devouring it.

1¼ cups white beans

4 cups vegetable stock

¼ cup olive oil

1 tsp tarragon, ground

2 bay leaves, enclosed in a tea bag or tea ball

8 large cloves of store-bought garlic, chopped

1 tsp Vege-Sal or seasoned salt, or ½ tsp salt, or to taste

2 tbsp whole garlic mustard seeds or 1 tsp commercial mustard seeds, ground, or to taste

1. Rinse the beans, transfer them to a pressure cooker or saucepan, cover them with water, bring the water to a boil, remove the pressure cooker or saucepan from the heat, and let the beans steep for 1 hour (or soak the rinsed beans in room temperature water to cover overnight).
2. Drain and rinse off the beans.
3. Return the beans to the pressure cooker with the vegetable stock, 2 tbsp of olive oil, epazote, and bayberry leaves, and pressure cook this under the highest pressure for 20 minutes (or simmer in a covered saucepan for 3 hours, or until the beans are tender, stirring occasionally).
4. Meanwhile, lightly sauté the wild garlic in the remaining olive oil in a small frying pan for 3–5 minutes, or until very lightly browned. Remove the wild garlic from the pan immediately, to prevent it from burning and becoming bitter. Reserve the olive oil.
5. Drain the beans, discard the bayberry leaves, and reserve the stock.
6. Purée the beans with the reserved olive oil from the sauté pan, plus the Vege-Sal, in a food processor. If you prefer a thinner dip, add some of the stock or additional olive oil to taste.
7. Add the garlic and garlic mustard seeds, and process until just mixed.

Makes 3 cups

Preparation time: 25 minutes

Cooking time: 20 minutes

RECIPE

Garlic Mustard Salad Dressing

Garlic mustard roots add the zing to this dressing, which will make even the best salad even better.

2 cups vegan mayonnaise

½ cup brown rice vinegar

¼ cup garlic mustard taproot

2 tsp smoked paprika

2 tsp tarragon, ground

1 tsp sage, ground

½ tsp Celtic Sea Salt or other coarse salt

¼ tsp powdered or liquid stevia

1. Purée all ingredients together in a blender.

Yields: 2½ cups

Preparation time: 5 minutes

Field Garlic
(*Allium vineale*)

Family: Amaryllidaceae, the amaryllis family

Other names: Onion grass, meadow garlic, wild onion, Canada garlic, wild garlic, rose leek, meadow leek, tree onion

This delicious, common, widespread Eurasian/North African perennial, which smells like onions and garlic, was incredibly hard to find when I first taught myself foraging. I saw line drawings in the field guide I was using, but just couldn't spot the plant, so I went swimming (I like to stay fit) in the local YMCA. After my mile of laps in the pool, I held on to the edge of the pool and conversed with an acquaintance named Chuck:

"Chuck, you know I like to cook. Now I'm trying to learn foraging."

"I know one wild edible plant, Steve. It's called onion grass."

“Chuck, you have to tell me where it grows! I've been looking for it for a year! WHERE IS IT? WHERE IS IT!? YOU HAVE TO TELL ME!”

After making the CIA waterboard agents at Guantanamo look like wimps, a half-drowned Chuck spluttered out its location, near the baseball field close to the Grand Central Parkway in Alley Pond Park in Queens, New York. The next day was my bike riding exercise day. I sped off first thing in the morning, and there it was!

After collecting all I could use, I pedaled back home. To my surprise, I started seeing field garlic in other places in the park, in green areas on my route home, and finally, right in front of the service entrance to my apartment building, as I was dismounting my bike. Turns out I was confusing it with grass, unaware that grass has flat blades, while field garlic has basal leaves that are cylindrical.

Unlike what you'd expect, new leaves begin growing in early autumn. Long, slender, unbranched, hollow, round, and grooved, they often survive the winter, growing more during warm spells. If severe winter weather does them in, they resume growing very early in the spring, as soon as the snow and ice are gone, and it's above freezing during part of the day.

The leaves grow from 6 inches to 24 inches long, coming from small clusters of layered underground bulbs that look tiny onions in the fall, winter, and early spring. The bulbs grow to almost 1 inch across, and look more like garlic cloves in mid-spring, when the bulbs partially split.

By late spring, a spherical cluster or whitish, green-tinged, or reddish bulblets, ¾–2 inches across, grows above a single, smooth, erect, green, leafless scape, 1–3½ feet tall. The tiny bulblets are ovoid, with one flat side and one curved side. Sometimes a tiny, slender, green shoot grows out of the top of the bulblet. Additional stalks of tiny, lilac-colored, six-petaled, short-stalked flowers, about ¾ inch long, sometimes also emerge from the tops of the bulblets.

A membrane surrounding the bulblets eventually bursts. The garlic-scented bulblets fall to the ground, and eventually grow into new plants (unless Italian herbivores find them first!).

Wild garlic resemble field garlic. They're both edible, but they have flat leaves, not cylindrical ones.

Some poisonous lilies have narrow leaves and bulbs, but they're odorless, and all the other characteristics are different too.

One poisonous plant, Star-of-Bethlehem (*Ornithogalum umbellatum*), greatly resembles field garlic in early spring (it doesn't reemerge in autumn), and they sometimes grow side by side.

However, Star-of-Bethlehem has flat leaves, not cylindrical ones. A white stripe runs down the length of each leaf and the plant has no odor, so you have to be careless to confuse the two. The flowers (which bloom in mid-spring) and seeds are completely different too.

Poisoning is so rare, I have had only one fatality since I first began teaching foraging in 1982: Soon after warning tour participants who were about to

harvest field garlic to beware of Star-of-Bethlehem, I saw that one woman had been putting the toxic species into her bag. I stopped her before she could eat any, but the unfortunate lady still succumbed—she died of embarrassment!

Field garlic grows throughout most of the eastern United States and eastern Canada, plus the Pacific States and western Canada. You'll find it in partially shaded and sunny habitats. It grows along edges; in lawns, meadows, pastures, and fields; along roadsides, riversides and stream sides; in backyards; on disturbed soil; in parks; and in open woods. It's a very common plant. Dairy farmers hate it, because if cows eat it, their milk tastes like garlic!

The leaves are in season when they're young, in the fall and early spring, as well as during mild winters. By mid-spring, they become too tough to eat. The aboveground bulblets are in season from late spring through mid-summer, before they fall to the ground. The underground bulbs are edible all year, although you won't be able to locate them after mid-summer when the aboveground parts vanish or during very cold winters.

You can tear or cut off the young basal leaves, or dig up the whole plant with a shovel or trowel. I swing the mass of bulbs against a tree, and pull apart the bunch of leaves into smaller groups, to get rid of the soil quickly. You can pull off the bulblets with your fingers.

Cooking "authorities" put down this plant in print, because they don't know what they're doing and pick the mature leaves in mid or late spring, when they're awful. But the young leaves are great, with a flavor of their own, yet still similar to onions and garlic. Use them accordingly, in salads, sandwiches, soups, stews, sauces, grains, casseroles, or any savory dish, the way you'd use scallions or chives. They cook in about 15 minutes, and any cooking method works with them.

This plant hasn't been analyzed nutritionally; but if it's similar to its relative, garlic, it should be a good source of antioxidants, flavonoids, carotenoids and chlorophyll. Because of the garlic odor, it must contain sulfur compounds that may help reduce LDL (bad) cholesterol levels and aid digestion.

Herbalists consider it to be a blood purifier, carminative, diuretic, expectorant, stimulant, and vasodilator. The raw bulbs may lower blood

pressure, good to try if your blood pressure is being monitored, to see whether it works. However, if you've low blood pressure, be careful with it, starting with very small amounts, lest it lower your blood pressure further.

A tincture of the bulbs has been used to prevent colic and croup, and the plant may have antiasthmatic properties, although this should be tested. It also reputedly stops kids from getting worms, but this hasn't worked with my young daughter, who collects field garlic with one hand, while unearthing and collecting earthworms with the other!

RECIPE

Indian Field Garlic Soup

With its spicy flavor, field garlic is ideal in Indian recipes. This recipe combines field garlic with store-bought garlic, and it's quick and easy to make.

¼ cup vegan butter substitute or olive oil

2 cups field garlic leaves or scallions, coarsely chopped

1 tsp fresh ginger, coarsely chopped

1 tsp cumin, ground

½ tsp coriander seed, ground

½ tsp thyme, ground

½ tsp black pepper, ground

2 heads of garlic, peeled but not chopped

2 cups chopped lettuce

4 cups vegetable stock

1 cup cooked yam or potato, coarsely chopped

1 medium tomato

1 tbsp white (mellow) miso

1. Sauté the field garlic in the vegan butter substitute, along with the ginger, cumin, coriander, thyme, black pepper, and garlic, for 5–10 minutes or until the garlic is lightly browned.
2. Meanwhile, simmer the lesser celandine in water to cover for 2 minutes, drain, and discard the water (not necessary if you're using lettuce).
3. Combine the field garlic mixture, lesser celandine, and all remaining ingredients in a saucepan, bring to a boil over high heat, stirring often, reduce the heat to low, cover, and simmer for 10 minutes.

4. Purée in batches in a blender, holding down the cover with a towel and beginning on low speed to prevent eruptions.

Serves: 4

Preparation time: 25 minutes

Cooking time: 20 minutes

Daylily
(*Hemerocallis fulva*)

Family: Xanthorrhoeaceae, the aloe family
Other names: Orange daylily, tawny daylily, tiger daylily, ditch daylily

This extremely common invasive Asian perennial produces four crops: shoots, flower buds, flowers, and tubers. One of the first plants to appear in late winter, the first thing you see are shoots, composed of sword-shaped, light green basal leaves, with the parallel veins typical of the lilies. The leaves eventually reach 1–3 feet in length and flop over, but when they first appear, they're still upright and tightly wrapped together, united at the whitish, ellipsoid or cylindrical base. This base grows 1–2 inches tall, before the young leaves begin to curve away from both sides, in the same plane.

Fleshy, light brown rhizomes—with the thickness of shoelaces, about ¼ inch in diameter—spread into the ground from the base, each ending in a

small, ellipsoid, light brown tuber, about ¾ inch long. Roots emanate from the ends of the tubers. In late spring, a smooth, leafless flower stalk grows ¼–½ inch in diameter and 3–4 feet tall. It's unbranched for most of its length, then produces short branches near the top, ending in six to fifteen cylindrical, lined, yellow-orange flower buds, 1½–3 inches long. These open into large, showy, short-stemmed, upward-facing, orange, funnel-shaped flowers. Nearly identical, the three-reflexed tepals and three sepals, about 4 inches long, with ruffled edges, curve backward at their tips. A pale yellow line runs along each tepal's length. In the center of each flower, six short stamens surround a single long pistil. The flower clusters often consist of the flowers, each of which lives for only one day; unopened flower buds of different lengths and levels of maturity; and wilted flowers from previous days. Wild daylilies produce no seeds. Squirrels dig up and eat some of the tubers, bury what they don't eat, and forget some of their stashes, thereby spreading clones of this plant.

Bred as show flowers, cultivated daylilies come in a variety of colors and are sometimes bred to have more than six tepals and sepals. These varieties are edible, but not as good as the common feral orange ones.

Tiger lilies (*Lilium tigrinum*), which also have edible flowers, resemble daylilies, but they have leaves growing from the stem, whereas daylily scapes are bare. I only see tiger lilies in gardens, but they're supposedly capable of escaping into the wild.

Caution: The daffodil (*Narcissus pseudonarcissus*) is a poisonous garden plant that escapes into the wild. It's long, sword-like leaves resemble the daylily's at first, but there's no cylindrical base, the white flowers are completely different, and there are no tubers. The poisonous iris (*Iris* spp.) has sword-like leaves as well, but, again, completely different flowers, no cylindrical base, and a single, thick rhizome, rather than tubers.

Daylilies grow in cultivated areas, parks, disturbed habitats, edges, lawns, parks, thickets, along trail- and roadsides, and in open woodlands. The shoots are in season in early spring; the flower buds, flowers, and wilted flowers from late spring to mid-summer; and the tubers are available all year, although they're at their best from fall through early spring.

The first time I found what I thought might be daylilies was right after they'd finished flowering, in mid-summer. When I returned early the following

spring and saw the shoots, I still wasn't confident of my identification and didn't eat them. I waited another three months until they flowered, when it was easy to identify them. I enjoyed using the flowers, but had to wait still longer, until the following spring (twenty long months in total), to enjoy the shoots, and it was worth it. Not only were the shoots delicious, but I was still alive!

Growing in dense stands, daylily shoots are easy to harvest in quantity. Simply break off the shoots with your fingers or cut them off (the shoots, not your fingers!) with a sharp knife. Break off the flowers, flower buds, or wilted flowers with your fingers, and dig up the shallow tubers with a shovel or a trowel, easy if there are no rocks, and if rain has loosened the soil.

Like related onions, daylily shoots have a sharp, spicy flavor, plus an overtone of string beans. Excellent chopped into salads and sandwiches, any cooking method works wonderfully with them. They cook in about 10 minutes, and taste great in any savory dish, such as grains, beans, casseroles, soups, curries, stir-fries, and soups.

The flowers are both sweet and spicy. However, the bottom one-tenth of the flower, which is colored greenish, is acrid and should be discarded. The stamens and pistils, however, are edible. Chop the flowers into salads, but eat the salad the same day, before the flowers self-destruct. Italian and Chinese people dip the flowers in batter and deep-fry them. You can also put them in pancake batter and cook them into savory fritters. I've stuffed them with a vegan cottage cheese of my own devising, nuts, and dried apricots; sealed the flowers with toothpicks; and served them at parties. The flowers are also superb in soups, cooking in about 5 minutes. In fact, they're essential in Chinese hot and sour soup. The Chinese call them golden needles, and you can buy them dried in Chinese grocery stores and online, although there's no excuse for not getting them for free in the wild. This invasive plant grows in great abundance everywhere.

The larger flower buds that are just about to open taste like string beans. They're excellent sautéed, stir-fried, or cooked in soups or casseroles. The newly wilted flowers are great in soups too. The tubers taste like turnips. Scrub them, slice thinly, and sauté them or add them to soups. You can also mix

them with oil and herbs and bake them. Use firm tubers only. The soft ones are awful.

Caution: Daylilies make about one out of fifty people sick, causing diarrhea or vomiting. Eat a couple of bites at first, then eat a little more each day to assure yourself that this plant is safe for you. If you feel queasy this plant is not for you. Also, on very rare occasions, a particular strain of daylilies can cause digestive distress in everyone. I've never encountered such a stand myself in over 35 years of foraging, and I know of only one foraging teacher who has. So, again, start slowly if you find daylilies somewhere new.

The shoots haven't been analyzed, but the flowers and flower buds are good sources of beta-carotene, vitamin C, and iron, and the tubers are high in protein and essential fatty acids.

The rhizomes and tubers show antimicrobial and anti parasitical effects, and could even inhibit the growth of cancer cells, but more research is needed to find out how to use them effectively.

Chinese herbalists (who also use it for pain, fever, childbirth, and as a sedative) call the daylily the flower of forgetfulness and use it for post-traumatic stress disorder (PTSD). I know one Chinese woman for who grew up under the rule of Chairman Mao, constantly in fear of the secret police, who could lock up anyone with impunity. She became a medical doctor, learned traditional Chinese herbal medicine, made friends with Westerners when that became possible, and emigrated to Boston. There she used daylily flower infusion to rid herself of the constant fear and anxiety that had become a way of life. I'd love to see this tested. Someone could give a large group of unprepared people a difficult math test, then give half the group daylily flower tea and the other half a placebo. Next they'd have everyone rate their symptoms. Sadly, such an inhumane experiment would never be approved by any ethics committee!

RECIPE

Sautéed Daylilies

Just a few seasonings turn daylilies into a perfect early spring cooked green. Serve over toast or with whole grains.

6 cups daylily shoots, chopped

6 tbsp olive oil

6 cloves of garlic, chopped

1 tsp Vege-Sal or seasoned salt, or ½ tsp salt, or to taste

1 tsp fennel seeds, ground

1 tsp paprika

1 tsp marjoram, ground

1 tbsp garlic mustard seeds **(see pp. 11)** or 1 tsp hot sauce, or to taste

1. Sauté all ingredients except the garlic mustard seeds together for 10–15 minutes, or until the daylilies are tender.
2. Serve sprinkled with the garlic mustard seeds or hot sauce.

Serves: 6

Preparation/cooking time: 15 minutes

RECIPE

Daylily Sherbet

Daylily flowers make any recipe luxuriant, and this sherbet is no exception.

3½ cups almond or soy milk

¼ cup silken tofu

¼ cup lecithin granules

¼ cup raw cashews

¼ cup grape seed oil

¼ cup vegetable glycerin

2 tsp clear liquid stevia

1 tsp cinnamon, ground

1 tsp dried mint leaves, ground

1 inch vanilla bean, scraped, or 1 tsp vanilla extract

¼ tsp salt

2 cups daylily flowers

1. Purée all ingredients in a blender except for 1 cup of the daylily flowers.
2. Chop the remaining daylily flowers in the blender, but don't purée them.

3. Transfer everything to an ice cream machine and freeze according to the manufacturer's directions.

Yields: 5½ cups

Preparation time: 10 minutes

Freezing time: 120 minutes (varies)

Sheep Sorrel
(*Rumex acetosella*)

Family: Polygonaceae, the smartweed or buckwheat family
Other names: Red sorrel, sour weed, field sorrel

One of the best-tasting and most common wild foods, you don't want to be sheepish about trying this one! A European perennial, it spreads via rhizomes, but also has taproots.

The cold-hardy plant produces a basal rosette very early in the spring. The long-stalked leaves reach 1½–3 inches in length. The youngest leaves are briefly oval, but soon become arrow-shaped, like a sheep's face: the pointed tip is the nose and the two spreading lobes at the leaf base are the ears.

In mid-spring, a slender, branched, deeply ridged stem 1½–9 (sometimes up to 18) inches long arises. The stem is jointed and papery sheaths wrap

around the stem adjacent to the leaf axils, just like its much larger relative, Japanese knotweed (see p. 54). The alternate leaves on sheep sorrel's stem look like the basal leaves, only smaller.

Tiny, yellow-green male flowers, and diminutive, reddish female flowers, bloom on long, lacy, loosely branched racemes on the upper stalks in late spring and early summer. Tiny, inconspicuous, reddish to yellow-brown fruits ripen in yellow-brown, papery wrappers in the summer as well.

Bindweed (*Convolvulus* spp.) is an inedible plant with arrow-shaped leaves, but it's a vine, not an upright plant, with funnel-shaped flowers and it never forms a basal rosette. Wood sorrel (see p. 99) sounds and tastes like sheep sorrel, but looks completely different in all its forms. The word "sorrel" means sour in Old French.

The basal leaves grow in early spring and throughout the fall, and the aerial leaves are available in the summer. Sheep sorrel grows on sunny lawns, in fields

and openings in the woods, along trail- and roadsides, in disturbed habitats, and on acidic soil throughout most of the United States and Canada.

The basal leaves are the largest and best ones to eat, although the stem leaves certainly aren't b…a…a…a…d either! Grasp a bunch of basal leaves with one hand, hold down the leafstalks with the other hand, and pull off the leaves, which are more tender than the leafstalks. You can also cut the entire rosette from the roots with a knife and trim off the leafstalks and roots. You can strip the aerial leaves off the stems with your fingers.

Sheep sorrel is strongly lemony and very delicious. Add the leaves raw to salads and sandwiches, or cook for around 10 minutes in soups, stews, grain and bean dishes, or any recipe that calls for greens. Nothing will drown out its strong flavor, and it adds zing to mild ingredients such as potatoes and squash.

This plant is replete with vitamins C, A, B-complex, D, E, K, P and U, plus the minerals calcium, phosphorus, magnesium, potassium, silicon, iron, sulfur, copper, iodine, manganese, and zinc. It also contains tartaric acid; the anthraquinones chrysophanol, emodin, and rhein; glycosides such as hyperoside; and quercetin 3-d-galactoside.

Because of its vitamin C content, it was used by herbalists to cure scurvy before vitamins were discovered. It's also been used as a diuretic, for inflammation, cancer, diarrhea, worms, intestinal parasites, and fever. With all its biologically active compounds, it should be tested to see if it can help any of these conditions.

RECIPE

Steve's Schav

Sheep sorrel gets its English name from the arrow-shaped leaf resembling a sheep's face, but it also looks like a calf's face and *schav* means calf in Yiddish. If you like tart flavors, you'll especially love sheep sorrel and the traditional Jewish cold sour soup it produces. It's particularly cooling on a hot day, but you can serve it hot as well.

8 cups vegetable stock

4 cups sheep sorrel, curly dock (see p. 94), wood sorrel (see p. 99), or garden sorrel

2 medium red onions, finely chopped

1 tbsp flaxseeds, ground

½ tbsp Vege-Sal or ¾ tsp salt, or to taste

¼ tsp black pepper, or to taste, ground

1 tbsp lemon juice

1 tbsp vegan butter substitute, or corn or olive oil

½ tbsp lecithin granules or pine nuts

1 cup silken tofu, diced

1. Bring ¾ of the stock, the sheep sorrel, onion, flaxseeds, Vege-Sal, and black pepper to a boil in a saucepan over medium heat; reduce the heat to low; and simmer, covered, for 5 minutes.
2. Meanwhile, puree the lemon juice, vegan butter substitute, and lecithin granules in a blender with the remaining stock.
3. Stir this into the soup with the tofu, adjust the seasonings to taste, and add additional lemon juice if desired.
4. Serve hot or chilled.

   Serves: 6

   Preparation/cooking time: 30 minutes

Common Mallow
(*Malva neglecta*)

Family: Malvaceae, the mallow family
Other names: Buttonweed, cheeseplant, cheeseweed, dwarf mallow, roundleaf mallow

This common, unobtrusive, mild-flavored European perennial is not to be neglected. Growing from a long, slender taproot, it can stand upright or creep along the ground.

The crinkled, toothed, slightly hairy, long-stalked basal leaves are round to heart-shaped, and the smaller leaves on the main stem are similar. The leaves grow from ¾ to 2½ inches across. They have five to seven shallow lobes and are notched where they connect with the leafstalk, which can get up to 7 inches long.

The flower is similar to the garden hibiscus flowers, only smaller. Less than ¾ inch across, it's five petals, plus a bushy column consists of many stamens, and one pistil in the center. White to pale pink or lavender, the petals are notched at the tips and pink lines run down their lengths. The stalked green fruit resembles a tiny wheel of cheese. It is ¼ inch across, flattened, rounded, and segmented.

Ground ivy (Glechoma hederacea) is a medicinal plant used as tea. It has-looking similar leaves, but they're opposite, not alternate, and quite hairy. Also, the whole plant smells minty.

Marsh mallow (*Althea officinalis*) has flowers similar to common mallow, but they're an order of magnitude larger and the leaves, which are heart-shaped to three-lobed, are velvety. This European relative of coastal marshes is edible, used much like common mallow, but very rare in the Mid-Atlantic states.

Common mallow grows in sunny and partially shaded places. You can find it in parks and gardens, along roadsides and paths, in empty lots, and on disturbed soil. It grows across North America.

To harvest, simply strip off the leaves, flowers, and "cheeses" with your fingers. You can eat the mild-flavored, mucilaginous leaves, flowers, and fruits raw or cooked. They're mild-tasting to bland, but have a wonderfully chewy texture, which will thicken soups, stews, and casseroles—the way okra, a relative, does. They cook in about 10 minutes. People have boiled the roots to create a thickener out of the water and tried eating the roots, like marsh mallow, but they're small and fibrous, so this isn't going to be very successful.

Common mallow provides vitamin C, iron, calcium, copper, and trace minerals. Tea made from boiling the roots of this plant and its relative, marsh mallow, has been used by herbalists, externally and internally, for skin sores, gastric and duodenal ulcers, digestive tract irritations, urinary tract irritations, cystitis, sore throats, irritated air passages, coughs, and bronchitis for centuries. The texture gives this demulcent a soothing effect, but it's never been tested scientifically to see where it has the most (and least) impact.

RECIPE

Unmellow Mallow

Common mallow loses its blandness completely with this wonderful combination of seasonings. Try one bite of these greens and you won't be able to stop eating them.

¼ cup peanut oil

¼ cup vegan butter substitute or olive oil

4 cups common mallow leaves, cheeses (the mallow fruits), or flowers

2 tsp whole cumin seeds

¼ tsp crushed red pepper

¼ cup fresh basil, chopped

1 tbsp wild or store-bought garlic, chopped

½ tsp coriander, ground

6 tbsp nutritional yeast

¼ tsp cloves

1 tsp tamari soy sauce

1. Sauté the mallow leaves for 10 minutes in 1 tbsp of the peanut oil and 1 tbsp of the vegan butter substitute.
2. Add the remaining vegan butter substitute and peanut oil, cumin seeds and crushed red pepper, and cook over low heat for 2–3 minutes, stirring constantly.

3. Add the basil and garlic and cook over low heat for another minute, stirring often.
4. Stir in the remaining ingredients, remove from heat, and allow to cook in the hot pan for another 2 minutes, stirring often.

Serves: 4

Preparation/cooking time: 10 minutes

Goutweed
(*Aegopodium podagraria*)

Family: *Apiaceae or Umbelliferae*, the umbelliferous, celery, carrot, or parsley family
Other names: Bishopsweed, ground elder, herb gerard, snow-in-the-mountain

Goats love this plant, so it was first called "goatweed"; but after someone misheard it and it became changed to "goutweed," people began using it to treat gout! As a chess player, I prefer the name "bishop's weed," although it acquired that name after having been planted on the grounds of European monasteries centuries ago and had time to spread everywhere and take over.

An invasive European colonial perennial that smells and tastes like parsley, celery, and carrots, it spreads by means of long, white branching rhizomes, forming a ground cover. In late winter and early spring, it grows close to the ground, with hairless, long-stalked, three-parted palmate-compound basal leaves. The oval, pointed, sharp-toothed, irregularly lobed leaflets grow from 1 to 4 inches long, and the larger leaflets then divide into another two or three lobes.

In mid-spring, a hollow, furrowed stem grows from 1½ to over 3 feet tall, with alternate leaves similar to the basal ones. Flat-topped, umbrella-like flower clusters 2–4 inches across grow at the top of this stem. The clusters consist of many tiny, five-petaled, white flowers, growing at the tops of the branching stems in late spring and summer. Later in the summer, the flowers change into small, elongated, flattened, green seeds. New basal leaves appear in the fall and persist until multiple hard frosts do them in.

People have confused goutweed with water hemlock (*Cicuta maculata*), which is deadly, even though water hemlock grows in the water and goutweed doesn't. The flowers are different, water hemlock doesn't form dense stands, and its leaves are feather compound, not palmate compound. You'd really have to ignore all the features of both plants to confuse the two.

People have also confused wild carrot (see p. 295) with goutweed, because the related plants have similar flowers, but the leaves and roots are completely different. Other relatives have similar flowers too, but are also different in other ways.

Goutweed grows in partially shaded, fully shaded, or sunny habitats. You'll find it in parks, along trailsides, on moist soil, in old gardens, in forests where trees have been cut, and in old fields, pastures, and disturbed habitats. It grows throughout the Northeast, and in the Pacific Northwest.

Early spring and mid to late fall are the best times to harvest the basal leaves in quantity, although there are always plenty of new, tender, young leaves growing at ground level, under the larger leaves, in late spring and summer too.

Simply pick the young basal leaves with your fingers, tearing off as many leaves with as few stems as possible.

Use the young leaves the same way you'd use parsley in salads, sandwiches, spreads, soups, sauces, dips, casseroles, and grain or bean dishes fresh or dried. I find them too strong-flavored to use as a green by themselves and too small to roast. You could boil them to turn them into milder greens, but that destroys much of the nutritional content.

Goutweed leaves are a rich source of beta-carotene, bioflavonoids, minerals, and vitamins E and C. Research has shown that high doses of

vitamin C help alleviate the symptoms of gout, so its use for this ailment is justified after all, even though the plant's current name arose by accident.

Herbalists use an infusion made from the leaves for joint pain and swelling, and boil the leaves and roots together and apply this externally to inflamed joints inflammation and sciatica.

The infusion of the leaves is also considered a diuretic, cleansing the urinary tract and promoting the flow of urine. It's also supposed to be a sedative. People have also inhaled the crushed seeds into the nose to relieve congestion caused by the common cold. None of this has been verified scientifically, and while this herb was used much more widely in medieval Europe than in the present.

RECIPE

Vegan Hollandaise Sauce

Vegan ingredients improve on the traditional eggs and butter, while goutweed adds a wild touch to this lemony sauce. Use it on everything from artichokes to potatoes. It also freezes well.

1 cup silken tofu, drained

½ cup lemon juice (made from 2 lemons)

½ cup olive oil

¼ cup goutweed, Virginia waterleaf, honewort, or parsley

3 tbsp lecithin granules or pine nuts

1 tsp lemon extract

½ tsp yellow mustard seeds, ground

½ tsp white pepper, ground

½ tsp nutmeg, ground

¼ tsp turmeric

½ tsp Vege-Sal or ¼ tsp salt, or to taste

¼ tsp liquid or powdered stevia

1 tsp konjac (a thickener available in health food stores)

1. Bring all ingredients except the konjac to a boil in a saucepan over medium heat, stirring often.
2. Reduce the heat to low, cover, and simmer for 5 minutes, stirring occasionally.

3. Transfer to a blender, hold down the cover with a towel, start blending on low speed, then increase the speed to high, and purée.
4. Pour in the konjak while the blender is running and blend until thickened, about 30 seconds.

Yields: 4 cups

Preparation time: 10 minutes

Trout Lily
(*Erythronium americanum*)

Family: Liliaceae, the lily family
Other names: Yellow trout-lily, American trout-lily, adder's tongue, fawn lily

This is a spring ephemeral that forms dense colonies, spreading by runners as well as seeds. A solid, light brown, tooth-shaped corm, ⅓–1 inch long and white inside, grows underground.

With mottled, purple brown spots on the green leaves, it does look like a speckled trout (*Cynoscion nebulosus*). This plant has basal leaves only: one for sterile plants and two for fertile plants. The leaves are smooth-edged, shiny, lance-shaped, ovate to elliptical, pointed, and fleshy. They grow 3–6 inches long and about 1 inch wide, with nearly no leafstalks.

From early to mid spring, a solitary, nodding, yellow, six-tepaled flower, 1–2 inches wide and streaked with reddish lines grows on top of a long, smooth, slender, leafless stalk, 4–10 inches tall. The tepals are bent backward, exposing six brown stamens and 1 thick pistil. In late spring, it becomes an ovate fruit. Then the plant dies to the ground.

This native perennial grows in partially shaded habitats, often near water, in rich moist woods, and on wooded slopes throughout most of eastern North America. You can eat the young leaves and corms in early spring, before the flowers appear. The plant becomes slightly toxic after the flower blooms.

Harvest by grasping a few plants at a time, then break off the young leaves. You can also dig up the corms with a shovel or a trowel while the leaves are still small and the corms' food reserves haven't been used up. This is labor intensive, so do this where the plants are the most dense.

The leaves taste like cucumbers. They're great chopped and added raw to salads or sandwiches, or cooked for 5–10 minutes using any cooking method in recipes that call for greens. You can also cook the corms like micro potatoes, although digging up and cleaning such small vegetables is labor intensive.

Caution: This plant doesn't agree with everyone, so start with small quantities.

Trout lilies provide vitamin C plus α-methylene-γ-butyrolactone, which shows antimutagenic activity and could help prevent cells from becoming cancerous.

Cherokees and other Native American tribes crushed the plant to make a soothing emollient for inflamed surfaces, such as rashes, bruises, and sores that don't heal. They also drank infusion of the corms for fever, although the plant hasn't been tested scientifically for antimicrobial activity.

RECIPE

Tofu in Peanut Sauce

Here's a great way to season tofu to create a satisfying entrée, with trout lilies giving it an exotic touch. This will even taste good to tofu-haters. Serve alongside brown rice.

2 cup apple juice

¼ cup Chinese preserved radish in chili (optional)

¼ cup peanut butter

¼ cup mellow (light-colored) miso

¼ cup fruit juice sweetened ketchup

½ tsp coriander, ground

¼ tsp cloves, ground

¼ cup peanut oil

2 tbsp powdered arrowroot

2 tbsp umeboshi plum vinegar

½ tsp allspice, ground

½ tsp clear liquid stevia

2 14-oz. packages extra firm tofu, drained and sliced

2 cups trout-lily leaves or lettuce, chopped

1. Purée all ingredients except the tofu and trout-lily leaves in a blender.
2. Place the tofu and trout-lily leaves in an oiled casserole dish, pour over the sauce, cover, and bake for 45 minutes or until bubbly.

Serves: 4–6

Preparation time: 10 minutes

Cooking time: 45 minutes

Common Dandelion
(*Taraxacum officinale*)

Family: Asteraceae or Compositae, the aster, daisy, composite, or sunflower family
Other names: Lion's tooth, priest's crown, swine's snout

This very tasty and prolific common garden weed proved to be quite dangerous to me. I ate one leaf of this perennial at 4 p.m. on March 29, 1986, and was promptly surrounded, handcuffed, and arrested by New York's finest, in response to a radioed emergency distress call by two undercover park rangers who had infiltrated my foraging tour. They had pretended to be a married couple, and since they never held hands or kissed in the course of the four-hour tour, I believed them.

I was taken to the police station in Central Park, where I was fingerprinted, photographed, and issued a desk appearance summons to appear in court. I was charged with criminal mischief for "removing vegetation from the park," because I'd eaten a dandelion leaf. I faced up to a year in jail if convicted.

Things looked very grim until the cops made a huge blunder: They let me go. I went home and called every newspaper, TV station, radio station, and wire service. The next morning, on the way to the newsstand to see if I'd had any success, five police officers accosted me. Turned out, they'd recognized me from the papers and all wanted my autograph.

I was in front pages of newspapers around the country, including page 1 of *The Chicago Times*. I was summoned back to Central Park, where I got on *CBS Evening News* for 5 minutes. Local TV crews were waiting on line behind them to cover the story on their own. I eventually got on everything from NBC's *Late Night with David Letterman* and *The Today Show* to MTV. Even the BBC covered the story.

When they took me to court, I served "Wildman's Five-Boro Salad" to reporters and passersby on the steps of the Manhattan Criminal Courthouse. Again, the press ate it up!

Embarrassed city officials negotiated with me, dropped the charges, and hired me to teach foraging as a NYC (New York City) Parks Department employee, which I did for the next four years, until a new, unfavorable administration came into power and reneged on the previous administration's negotiated agreement. I went back to leading freelance foraging tours and have been doing so ever since.

Years later, Parks Commissioner Adrian Benepe told me that the real reason I'd been arrested was because Parks Department officials were terrified of frivolous lawsuits, fantasizing that I might inspire someone to pretend to have poisoned themselves and sue the city. Arresting someone for hidden motives not stated on the charges is official wrongdoing. It's called false arrest. I hope they do that again!

This European perennial grows from a beige, perennial taproot. Up to 10 inches long, it's thick and brittle. All parts of the plant exude a white, milky sap where cut.

The dandelion has jagged leaves, 3–12 inches long, and ½–1½ inches wide. They always grow in a basal rosette. Unlike the similar and edible wild lettuce and chicory the teeth always point toward the base of the leaf and there are no hairs anywhere on the plant. Unlike sow thistle which is also edible, the leaves are never prickly. Poor man's pepper (see p. 90), also edible, starts as a basal rosette with narrow, toothed leaves, but the teeth don't point to the leaf base, and there's no white, milky sap.

New leaves of the Common Dandelion emerge in late fall and persist until destroyed by severe winter weather, only to reemerge in early spring. After the

leaves have grown for a while, also in early spring, a cluster of short, stubby, green, flattened flower buds that look like a bunch of buttons form in the rosette's center. You've to look carefully to see them. Soon after, a smooth, slender, leafless flower stalk elevates each bud about 18 inches into the air—less if subjected to mowing.

The yellow composite flower heads reach 1–2 inches across. Unlike some other members of this family, there are no central disk flowers, only strap-like ray flowers. Reflexed (bent) green bracts curl under each flower.

Overnight, the flower transforms into a spherical, white seed head. Tiny brown seeds, shaped like sunflower seeds, grow in the center of the sphere and extend tiny, white parachutes outward.

Dandelion leaves are at their best when they first come up in very early spring, then again in late fall, and sometimes into the winter, if the ground isn't frozen and it's above freezing for part of the day. By the time the plant flowers, unless you prepare them with strong seasonings like kale chips, the leaves get super-bitter. They won't kill you, but they taste so bad, they'll make you wish you were dead. If that doesn't happen, they might make you hallucinate, but you'll have only one hallucination: that you're eating food in an English restaurant!

The flowers are best when the greatest number have just opened, still in early spring, when the leaves are large and the flowers are mostly bright yellow. Some new, bright yellow flowers appear throughout the rest of the growing season, but they're few and far between.

You can dig up the root any time, but it's probably at its best when there's the most food stored underground for rapid spring growth: in the fall and early spring, as well as in the winter, if you can locate it and the ground isn't frozen.

Dandelions aren't very particular about where they'll grow. In addition to lawns and gardens, you'll find them in disturbed habitats, edgy habitats, fields, marshes, parks, thickets, along trail- and roadsides, and in parks, marshes, and thickets.

Pick dandelion greens by inserting a pocket knife into the ground next to the center of the rosette at a 45° angle to the ground and cut in an arc to sever

the root. Then you can pick up the whole rosette and shake off any extraneous leaves or debris. This is much faster than picking the leaves one at a time. You can collect the flower buds, which are best when they're still embedded in the center of the rosette, the same way.

Pick the flowers with your fingers and cut off the sepals, which are bitter. The best way to dig up the roots is with a shovel. Choose a rock-free location, and harvest after rain has softened the soil.

The young leaves taste like lettuce, but more intense, and with an overtone of bitterness. They're good in salads and sandwiches with other ingredients. Use the amount that won't make the dish too bitter for you.

They're also good sautéed; however, they shrink and concentrate their bitterness then, but that disappears if you stir in a sauce and cook them further. You can add dandelion leaves to any dish that calls for greens, again sparingly, depending on how much bitterness you can handle. They cook in 10–20 minutes. You can use the flower buds the same way you use the leaves.

The flowers taste a little like carrots. In the field, you can take a bite right out of the center of a very fresh flower, something my foraging expert daughter discovered at the age of 9, to get a burst of nectar. You can also cook the flowers in batter and make fritters with them. They're also a superb ingredient for making wine. Just make sure to get rid of all the very bitter green sepals that surround the flower's base.

The taproots are hard and bitter. Some people eat them anyway, but they're best sliced and simmered, covered, for 20 minutes to make a medicinal decoction. Although the English make a tea of dandelion mixed with burdock, the roots don't taste good to most people, so the decoction is mainly used as a medicine. You can also roast the roots until they're black, grind them to the size of coffee in a blender, and put them in a coffeemaker, like chicory to make a caffeine-free coffee substitute.

Dandelion flowers are a good source of beta-carotene, which your body turns into vitamin A, and the leaves are super nutritious, beating any store-bought vegetables hands-down. They provide vitamins B1, B2, B5, B6, B12, C, E, P, and D, as well as biotin and inositol. Minerals include calcium, potassium, phosphorus, magnesium, and zinc.

Dandelion root decoction (made from 1 tbsp chopped roots simmered in 1 cup of water, covered, for 20 minutes) has been used as a tonic for thousands of years. Like burdock root (see p. 331), it contains inulin, a polysaccharide that doesn't provoke the release of insulin, and is good for people with blood sugar problems.

It also contains the glycoside taraxacin that promotes the flow of bile, reduces inflammation of the bile duct, and helps get rid of gall stones. The herbalists who'd been using the decoction for liver problems for hundreds of years certainly got it right this time. It's also helpful for chronic hepatitis, where it reduces jaundice and liver swelling, and promotes digestion by stimulating the production of bile.

The decoction is also diuretic, so it's used for water retention and kidney problems, although the causes of these conditions must also be addressed.

RECIPE

Dandelion Berbere

This hot Ethiopian seasoning is perfect with dandelions, where the strong flavor of the greens and spices is moderated by tofu. Serve it over clear noodles or brown rice.

¼ cup olive oil

2 14-oz. packages firm tofu, drained

2 cups dandelion greens, chopped

8 cloves garlic

Sauce Ingredients

2 cups almond milk or other nondairy milk

6 tbsp mellow (light-colored) miso

6 tbsp peanut butter

2 tbsp Berbere powder (see below)

2 tbsp arrowroot or kudzu

¼ tsp cayenne pepper, or to taste (optional)

1. Sauté the dandelions and tofu in the olive oil for 5 minutes.
2. Add the garlic and sauté another 5 minutes.
3. Meanwhile, combine all the other ingredients in a food processor, or in a bowl with a whisk.

4. Stir the sauce into the sautéed ingredients. Bring to a boil over medium heat, stirring constantly. Reduce the heat to low and simmer, covered, for 10 minutes.

Serves: 6

Preparation/cooking time: 30 minutes

RECIPE

Berbere Powder

Here's my version of a very tasty seasoning that most Americans have never tried.

Ingredients

2 tsp. cumin

17 cloves

1 tbsp. cardamom

2 tsp. black pepper

1 tsp. allspice

4 tsp. fenugreek seeds

2 tsp. coriander seeds

3 tbsp. paprika

2 tsp. powdered ginger

Directions

1. Cook all ingredients except the paprika together in a frying pan, over medium heat, stirring constantly, until fragrant. Remove from the heat to prevent burning.
2. Grind into a powder in a spice- or coffee-grinder.
3. Mix in the paprika.

Serves: Makes 1/4 cup

Preparation/cooking time: 15 minutes

Spearmint
(*Mentha spicata*)

Family: Lamiaceae, the mint family
Other names: Garden mint, menthol mint, mint, sage of Bethlehem, silver mint

Everyone's familiar with the flavor of this European plant, but finding it is still special. Like other mints, it's a square stem and opposite leaves, and this has features that distinguish it from its edible relatives, in addition to its fragrance.

Spearmint grows 10–20 inches tall. The stem is branched and purple-tinged, and it spreads via branching rhizomes.

Its leaves are pointed, accounting for the “spear” part of its common name. They're oval to lance shaped, nearly hairless, stalkless of short-stalked, and deeply veined. They grow up to 2 inches or more long, and up to 1 inch wide.

The flowers bloom from late spring through mid-fall, both in tufts, from the leaf axils, and in terminal spikes along the tops of the stems. The many bilaterally symmetrical, five-lobed flowers may be white, pale violet, or purple-pink. The stamens protrude, accounting for the specific name *spicata*, which means furnished with spikes. A small, inconspicuous, dry fruit capsule contains one to four seeds.

Spearmint grows in sunny or partially shaded wet habitats, meadows, fields, disturbed habitats, and near lakes and rivers. It grows throughout most of the United States and southern Canada, and is in season from early spring to late fall.

Cut or break off the aboveground parts for tea, or strip the leaves and tender tops of the stems with your fingers to use as food. You can still save the rest of the stems, and all parts except for the roots, for tea.

Finely chopped, the leaves are superb in virtually any kind of dessert. Leave them whole to use as a garnish. Use them raw in salads and sandwiches, or cook them around 10 minutes in pies, cakes, sauces, puddings, ice cream, jellies, breakfast cereals, and more.

Spearmint supplies you with vitamins A, B1, B2, B3, beta-carotene and other related antioxidant carotenoid A precursors, the flavonoid hesperidin, and tryptophan. It also contains the minerals calcium, phosphorus, and iron.

A major medicinal plant, spearmint contains the essential oil menthol, plus at least twenty-nine additional biologically active compounds and antioxidants, most of which you've probably never heard of.

An infusion of the aboveground parts is excellent for stomachaches and indigestion. Due to its gentleness, it's especially good for children. It's been used for indigestion in children, and colic, for centuries, whereas stronger peppermint is preferred for adult indigestion. Spearmint tea is also good for morning sickness and motion sickness.

It contains antimicrobial compounds, and it's been used for colds, influenza, and fevers, although it should be tested for action against specific pathogens. It's been used for nervous headaches, and research even shows that it's good for mild hirsutism (excessive hairiness) in women, because it reduces androgen levels.

Spearmint is also a mild diuretic. A strong cup of hot tea will promote the flow of urine and relieve swelling due to water retention, although the cause of the condition, which might be dangerous, should be determined.

Macerated spearmint stems are also useful as a poultice for bruises, especially mixed with burdock (see p. 441) leaves, water, and clay.

RECIPE

Spearmint Ice Cream

The only seasoning in this ice cream is spearmint, and lots of it. That's all it needs to show off how well my vegan ice cream formulation works and how good spearmint tastes!

3½ cups soy milk, almond milk or other nondairy milk

1 tsp agar powder or 1 tbsp agar flakes

1 tbsp arrowroot or kudzu

½ cup silken tofu, drained

½ cup raw pine nuts or cashews

¼ cup vegetable glycerin

¼ cup grape seed oil

¼ cup fresh spearmint or other mint leaves, or to taste

1 tbsp clear liquid stevia

½ tsp salt

1. In a small saucepan over medium heat, bring 2 cups of the soy milk to a boil with the agar, arrowroot, and half the spearmint, stirring constantly.
2. Reduce the heat to low and simmer, uncovered, for 5 minutes or until the agar is dissolved.
3. Transfer to a blender and purée with all the remaining ingredients except half the spearmint. Start on low speed, and hold down the blender cover with a towel to prevent eruptions.
4. Add the remaining spearmint leaves and blend briefly until finely chopped.
5. Freeze in an ice cream machine according to the manufacturer's directions.

Yields: 5½ cups

Preparation time: 30 minutes

Freezing time: 2 hours (varies)

Japanese Knotweed (*Fallopia japonica*, *Polygonum cuspidatum*)

Family: Polygonaceae, the smartweed or buckwheat family

Other names: Fleeceflower, Himalayan fleece vine, monkeyweed, Hancock's curse, elephant ears, pea shooters, donkey rhubarb, sally rhubarb, Japanese bamboo, American bamboo, Mexican bamboo, tiger's walking stick

This widely despised East Asian invasive member of the smartweed or buckwheat family is one of my favorite early spring wild foods. You can often find dense stands of upright, unbranched, green shoots, ½–1¼ inches wide, and dappled with red, pink, and magenta (like psychedelic asparagus) in large quantities. Papery, whitish sheaths grow upward from the regularly spaced joints, characteristic of this perennial's family. These turn into tall, hollow, conspicuous, woody, jointed stems that reach 9–12 feet in height, creating

what looks like a thicket of bamboo. The previous year's growth persists through the winter, helping you locate the plant even before the shoots appear.

The alternate leaves look like bulging triangles. Pointed, toothless, and with flat bases and pointed tips, they grow 4–6 inches long and 2¼–2½ inches wide.

The greenish-white flowers bloom in the summer. Hundreds of them grow on showy, long, lacy spikes. Their attractiveness caused gardeners to import them around the world, creating great chagrin. The flowers develop into many tiny, three-sided, smooth, beige, papery fruits in autumn, each with a tiny, hard, brown seed inside. The remaining skeletons of the seeds turn white in the winter.

There are no poisonous look-alikes. Asparagus has green shoots, but no joints or reddish flecks. Giant knotweed (*Fallopia sachalinensis*) is a close

relative that's larger than Japanese knotweed, equally edible, but much less common.

A poster child for invasive species, this plant spreads by hardy rhizomes as well as the seeds. You can find it in partial shade or full sunlight and on disturbed soil, where it takes over. It also seizes roadsides, fields, and riverbanks, where flooding destroys existing vegetation and Japanese knotweed can take hold. Although it's supposed to be very bad, there's no more now than there was when I first started foraging, so in the Northeast at least, it's integrated itself into the ecosystems and helps convince me that scientists who want to take a second look at the concept of invasive species are right.

This plant grows throughout most of North America, wherever it escaped cultivation. The shoots are in season in early spring. Break or cut them off near the base, and remove and discard the tough leaves. When more than a foot tall, cut or break off any parts that are still tender near the tip of the shoot. You'll need to peel off the tough cuticle of older shoots. On rare occasions, new shoots come up after stands of knotweed have been cut down in the summer and fall, but I've only seen this happen twice in 34 years, believe it or not!

The shoots have a wonderfully sour flavor, like its relatives, rhubarb and sheep sorrel (see p. 29). You can grill them like asparagus, sauté them, or simmer them in soups, stews, and grain dishes. They cook in about 5–10 minutes. They're especially good used in small quantities to contrast sweet ingredients (the way rhubarb is used) in desserts, and they're just as good adding zing to bland foods, such as potatoes or tofu.

You can break through the membranes between the segments of large knotweed, using a chopstick, stuff it, and bake it. You can also use the rind, like orange rind, for making marmalade. This plant is also mucilaginous, slightly thickening soups, stews, and sauces. People have also eaten it raw in small without ill effects; however, large portions of raw knotweed might give some people diarrhea and aren't recommended.

This plant is loaded with vitamins A and C, the antioxidant flavonoid ruin, plus the minerals potassium, zinc, and manganese.

It's also a great source of resveratrol, better known as the substance in red grape skins and red wine that lowers bad cholesterol and reduces the risk of

cardiovascular disease. It may be helpful in Alzheimer's disease, prostate cancer, Lyme disease, and osteoporosis, but research is still in its early days.

This plant contains oxalic acid, like wood- (see p. 99) and sheep sorrel (see p. 20), lamb's quarters (see p. 127), and spinach, so it's not something people with kidney disease should eat if they can't eat spinach.

RECIPE

Sweet Grilled Knotweed

Because Japanese knotweed is so lemony flavored, grilling it with sweet herbs works perfectly. Once you try this one, you'll be looking forward to knotweed season every year!

8 cups Japanese knotweed shoots

⅓ cup sweetened miso coating (see p. 5)

1. Mix the knotweed with the coating.
2. Place the knotweed on a rack over an oiled cookie sheet.
3. Grill 2–4 minutes in a broiler or until black flecks begin to show on the knotweed.
4. Flip the knotweed with tongs or a fork, then grill until black flecks begin to show on the other side.

Serves: 4–6

Preparation time: 5 minutes

Cooking time: 8 minutes

Shepherd's Purse
(*Capsella bursa-pastoris*)

Family: Brassicaceae or Cruciferae, the mustard, crucifer, or cabbage family
Other names: Mother's heart, pickpurse, pickpocket, lady's purse, rattle pouches

This European mustard starts off in early spring as a basal rosette consisting of deeply toothed leaves up to 9 inches across, broader toward the tip. They look like the dandelion leaves, but with blunter teeth that point outward, not toward the leaf's base. Unlike dandelion leaves, there's no white, milky sap. Also, the slender, white taproot differs from the dandelion's stout, beige one.

In mid-spring, a little-branched, slender, erect flower stalk grows up to 2½ feet tall with alternate, stalkless leaves (smaller than the basal ones), clasping the stem with two small, pointed lobes.

The tiny, white, four-petaled flowers—whose petals form a cross like related mustards—alternate around the tip of the stalk on racemes. These give

way to long-stemmed, flattened, triangular, two-parted seedpods, ⅛ inch long, that supposedly resemble the purses of ancient shepherds.

This European annual comes up throughout North America. It grows in full sunlight or partial shade, along roadsides and in fields, pastures, lawns, and parks. It's one of the first plants to appear in newly disturbed habitats.

The basal leaves are good to eat in early spring, and a second growth of basal leaves are edible from mid to late fall. The flower buds and flowers are available to eat in mid-spring.

Sever the taproot of the basal rosette with a knife, shake off the debris, and bag the basal leaves. This is more efficient than picking the leaves one by one. Pick bunches of the flower buds and flowers with your fingers.

The basal leaves are the most mild-flavored of all the wild mustards I've ever tasted. They're fine with stronger-tasting ingredients, raw or cooked, in

salads, sandwiches, or side dishes and entrées that call for vegetables, but don't contribute much. They cook in 10–15 minutes.

On the other hand, the flowers, flower buds, and the top parts of the stems taste like broccoli, excellent in salads and sandwiches, or as a garnish. They cook in about 5 minutes, but they're so small, they'd probably get lost in recipes with lots of other ingredients.

The seedpods are edible, but they're also small and without flavor. The root is edible, but too small as well, and hard to chew.

The leaves contain vitamins A, C, K, B1, B2, B3, choline, and inositol, plus the minerals calcium, potassium, and phosphorus. The aboveground parts of this plant also have saponins, choline, acetylcholine, and tyramine.

The leaves provide fumaric acid, which has been shown to inhibit the growth of cancer cells in mice, but it hasn't been tested in humans. An infusion of this plant is considered to be an astringent, an anti inflammatory, and a diuretic. It's also supposed to constrict the blood vessels, lower blood pressure, contract the uterus, and stop bleeding. Herbalists recommend its use during or after childbirth and to ease difficult menstruation, but doctors warn pregnant women to avoid this plant because of its possible effects on the blood, and scientific experiments performed with this plant have been inconclusive. I tried it on a paper cut to stop the bleeding, but it didn't help.

RECIPE

Pizza Purse

Shepherd's purse leaves are normally pretty bland, but not when roasted into chips with this Italian-style coating.

4 cups shepherd's purse basal (bottom) leaves, the larger the better

½ cup Pizza Coating

1. Gently fold the Pizza Coating onto the shepherd's purse leaves, using your fingers.
2. Spread the leaves onto four oiled non stick baking mats placed over four cookie sheets.
3. Bake for 30 minutes in a preheated 300° F oven, or until dry and crisp, but not black.

Serves 4 to 6

Preparation time: 30 minutes

Cooking time: 30 minutes

RECIPE

Pizza Coating

This purée of pizza flavorings is great for roasting wild leafy greens or store-bought vegetables, and goutweed makes it especially tasty.

6 cloves of garlic

½ cup pine nuts

½ cup fresh or frozen basil

¼ cup parsley

2 cups white miso

1 cup olive oil

¼ cup nutritional yeast

2 tbsp tomato paste

4 tsp oregano, ground

1 tsp paprika

1 tsp thyme, ground

1 tsp fennel seeds, ground

1 tsp hot pepper flakes, ground (optional)

¼ tsp black pepper, or to taste, ground

1. Chop the garlic, pine nuts, basil, and goutweed or parsley as finely as possible in a food processor.
2. Add the remaining ingredients and purée.

Makes 3 cups

Preparation time: 15 minutes

Ramp
(*Allium tricoccum*)

Family: Liliaceae
Other names: Wild leek, wood leek

This is a dangerous plant, if you're standing between it and a knife-wielding celebrity chef! This is a first-rate wild food, as are so many others covered here; but this species must have a good PR agent, as all the celebrity chefs know about it!

This perennial smells like its close relatives, onions and garlic, when injured. It's basal leaves exclusively, and only two or three of these, but it grows in dense stands.

The smooth, elliptical, pointed, light green leaves, with parallel veins typical of its group, grow 4–12 inches long and 1–3 inches across. Each leaf first emerges from a purple, scallion-like leafstalk wrapped in a sheath. Clusters of leaves up to 10 inches across emerge in early spring, then yellow and die to

the ground in mid-spring, when tree leaves block the sun from their forested habitat.

As the leaves die back, the flowers emerge, blooming in early to mid summer, above a smooth, slender, round, erect, unbranched, leafless red stalk that reaches 6–18 inches in height. There's another sheath at the bottom.

Around thrity-five creamy-white, six-tepaled, white-stalked flowers, ⅛ inch across and ¼ inch long, bloom, configured in a dome-shaped cluster 1–2¼inches across. They grow above a short-lived pair of bracts.

Tiny, hard, shiny, spherical black seeds, grouped in threes, replace the flowers, ripening in late summer and fall. Some skeletons of the seed stalk sometimes persist through the winter, marking the locations of the bulbs.

The pear-shaped, onion-like, white bulbs consist of two to six layers. Each bulb grows from ¾ to 2 inches long, wrapped in a light brown, papery covering. It's largest in the summer and fall after the leaves have died, and smallest in the early spring when the leaves are growing.

Poisonous lily of the valley (*Convallaria magalis*) has leaves that look like ramp's, but they've no odor and grow on a stem, whereas ramp leaves are always basal. The roots, flowers, and seeds are also completely different.

Ramps grow in partially shaded, moist, deciduous woodlands, on slopes, in swamps, and near rivers. It's distributed throughout most of eastern North America, but not Alabama, Georgia, and Florida.

Ramp leaves are in season from early to mid spring, when they die. The bulbs are almost too small to be worth picking in early spring, but they get large when the leaves die and remain edible in the summer and fall. You've to spot the flower head, seed head, or skeleton to locate them when the leaves are gone. Some years, and in some places, the skeletons disappear in autumn and you're out of luck then. Other times, they persist through the winter and into early spring.

Unscrupulous commercial harvesters have wiped out ramps, especially near the edge of their range, but if you collect a small portion of any stand where they're very abundant and leave some bulbs of each cluster you dig up, you'll have a bountiful, sustainable harvest indefinitely. All the stands my very large groups have enjoyed since 1982 are still completely intact!

Use the rightfully prized, strong-flavored leaves and bulbs like scallions or shallots, raw in salads or cooked, using nearly any method in virtually any savory recipe. The bulbs also make excellent pickles, although you've to remove the mature bulb's tough, slender core after splitting the bulb open with a paring knife. The leaves and bulbs cook in about 10–15 minutes.

Ramps are among the best-tasting member of onions, garlic, and their relatives—well worth the bad breath they cause. In the Deep South, gala ramp festivals are held every year, celebrating its appearance in early spring, months before farm crops became available. It saved the lives of pioneers and slaves who were dying of vitamin A deficiency from many months without fresh greens. Nowadays, they close all the schools the day after a ramp festival. They can't pay the teachers enough to stay in a room full of kids who have been eating ramps all weekend!

In addition to vitamin A, ramps provide vitamin C and some vitamin B1, plus the minerals potassium, phosphorus, calcium, and iron.

Not currently in use medicinally, Native Americans ate the leaves as a spring tonic (probably due to its vitamin A content) and to treat colds and croup. They also applied the warm juice of the bulbs and leaves to the ears for earaches.

RECIPE

Red Ramp Curry

Quite easy to make, this Thai recipe will knock your socks off, depending on how much curry paste you decide to use. And the ramps certainly won't get lost among all the other ingredients and flavors. Serve this over clear noodles or brown rice.

3⅓ cups (2 16-oz. cans) of coconut milk

2 cups ramp leaves or chopped shallots

2 cups fresh or canned pineapple, diced

2 carrots, sliced

1 yellow summer squash, peeled and sliced

3 celery stalks, sliced

1 14-oz. package firm tofu, drained and diced

1 cup raw peanuts

2 cloves of garlic, chopped

5 tbsp Thai curry paste (available in Asian grocery stores and some health food stores), or to taste

1. Simmer all ingredients together for 1 hour or until the veggies are tender.

Serves: 6

Preparation time: 15 minutes

Cooking time: 60 minutes

Common Blue Violet
(*Viola sororia, V. papilionacea*)

Family: Violaceae, the violet and pansy family

Other names: Common meadow violet, purple violet, woolly blue violet, hooded violet, wood violet

Widespread both in gardens and in the wild, this colonial plant propagates itself by means of branched rhizomes, about ½ inch thick.

All the leaves are basal, but there are no rosettes. Tightly curled at first, each leaf grows on top of a single, slender, hairless leafstalk 3–8 inches high. Odorless, heart-shaped, hairless, and shallow-toothed, the leaves grow 3–5 inches long and equally wide.

Hardly taller than the leaves, each bilaterally symmetrical, scentless, violet-colored flower also emerges from the ground on its own slender, hairless flower stalk. There are five-rounded petals and two-bearded lateral ones. Bushy stamens grow near the flower's throat. The three lower petals are deeply veined, and the lowest one is slightly spurred. Although hundreds of these colorful

flowers, ¾–1 inch across, cover meadows toward the end of early spring, they're all sterile!

Fertile flowers mature in the fall. Hidden at ground level, these inconspicuous oblong, beige capsules grow to about ½ inch long. They mature and self-fertilize, splitting lengthwise into three long, narrow troughs, releasing a few dozen tiny, spherical seeds that resemble ant eggs, which ants spread. Translucent white at first, they become dark brown when mature.

White violets and intermediate blue-and-while violets are now considered subspecies of the common blue violet, and you use them all the same way. The round-leaf yellow violet (*Viola rotundifolia*), a similar relative that grows in swamps, was formerly thought to be poisonous, but turns out to be edible as well.

The swamp blue violet (*V. cucullata*) is another edible relative. Its flower rises high above the basal leaves, making it easy to distinguish.

Young garlic mustard (see p. 11) leaves resemble violets', but they're rounded, not pointed, with wavy margins. They're very deeply veined, they smell like garlic when crushed, and they form in a basal rosette. Other stages and parts look completely different too.

Common mallow (see p. 33) leaves resemble violets', but they're pleated as well as rounded rather than pointed. Other parts are completely different too.

Wild ginger (see p. 306) also has heart-shaped leaves, but they're entire with no teeth, they're much larger than violet's leaves with very long leafstalks, and they grow in pairs.

Caution: Other plants have violet flowers, but that doesn't make them violets. Larkspur (*Delphinium* spp.) has a long spur extending from the rear of its flower and a five-parted leaf, not a heart-shaped one. Monk's hood (*Aconitum napellus*) has a hooded flower and feathery leaves. Neither plant has basal flowers, the flowers don't have any of the features of violet flowers except for their color, and they're both poisonous.

Violets grow in gardens, meadows, fields, parks, and damp woodland openings; on lawns; along trail edges and roadsides; and near riverbanks. They're native to eastern North America and many of the central states. Gardeners and landscapers plant them everywhere.

The leaves are edible from early through mid spring. After that they get tough and coarse. New tender leaves sometimes come up after mowing in autumn, although not in great quantity. The edible flowers bloom in quantity from the end of early spring into the start of mid-spring, although a few bloom in autumn as well.

Harvest by holding down handfuls of plants with one hand and pulling off as many leaves and flowers as possible, with as few of the relatively tough leafstalks and flower stalks as you can. The fruit capsule and their seeds inside aren't edible, and the rhizomes are poisonous, causing vomiting, not that I ever saw anyone on my tours attempting to take a bite out of those (yet!).

Violet leaves and flowers are very tasty, mild at first, then with a slight bite. Use them raw in salad or sandwiches, or cook them for about 10 minutes using virtually any cooking method, in any kind of recipe that calls for greens. You can also freeze the flowers in water inside ice cube trays and serve these in drinks.

The leaves are a good source of vitamins A and C, and the flowers contain vitamin C. The leaves contain genistein, also present in red clover (see p. 118), plus isoflavone, a plant estrogen and antioxidant, which may lower the risk of cancer. Genistein changes the action of the genes that prostate cancer cells use to spread throughout the body, and research is ongoing to find out whether taking genistein helps prostate cancer patients.

RECIPE

Sweet Violets

Cooking onions until translucent brings out their sweetness, and this is just what you want when you're cooking violets seasoned with sweet herbs to make a veggie side dish everyone will love.

¼ cup of vegan butter substitute or peanut oil

2 red onions, diced

8 cups common blue violet leaves and flowers, or other greens

1 tsp salt

¼ tsp cloves, ground

¼ tsp almond extract

1. Gently sauté the onion in the vegan butter substitute for 20 minutes.
2. Add the remaining ingredients and sauté for another 10 minutes.

Serves: 4–6

Preparation time: 5 minutes

Cooking time: 30 minutes

False Solomon's Seal (*Maianthemum racemosum* ssp. *racemosum*, *Smilacina racemosa*)

Family: Asparagaceae, the asparagus family

Other names: Solomon's treacle, Solomon's plume, false spikenard, feathery false lily of the valley

This colonial perennial has an unbranched, gracefully arching, zigzag stem that grows from 1 to 3 feet tall. It arises from a stiff, cylindrical, yellow-brown rhizome that gets up to ¾ inch thick. Circular leaf scars from earlier years' growth form impressions like those of a signet ring at regular intervals.

Toward the end of early spring, undeveloped young leaves tightly wrap themselves around the tops of the erect, pencil-shaped shoots and a grayish sheath covers the shoot's lower part. Within a couple of weeks, the alternate leaves develop on very short leafstalks. They're long, pointed, elliptical, and smooth edged with parallel veins. They grow from 2¾ to 6 inches long and up to 3 inches wide. They turn yellow in autumn.

A flattened, branched, pyramidal panicle, 1–4 inches long and 2 inches wide, grows at the stem's tip in late spring and early summer; and 20–80 tiny, cream white, 6-tepaled, star-shaped flowers, ⅛ in diameter, with stamens longer than the tepals, soon bloom there. The flowers look like tiny lilies, and they're related.

Spherical berries ½ inch across, each containing one to four spherical seeds, ripen on the panicle in the fall. They first change from green with copper spots to cream, then ripen to purple-striped with red.

Related Solomon's Seal, which is also edible, but much less common, looks similar, but its flowers and blue berries grow under the arching stem, not at the tip, and its rhizome is white, not yellow-brown.

Starry false Solomon's seal (*Maianthemum stellatum*), another edible relative, has more narrow leaves than false Solomon's seal. The rhizome lacks prominent seal-like scars, and the plant grows near the seashore as well as in moist meadows. Other edible relatives also have different flowers, fruits, and roots.

False hellebore (*Veratrum viride*) is a swamp plant with an upright green shoot the width of the fat crayons toddlers use, quite unlike a slender pencil. The shoot and mature leaves are deeply pleated, like an accordion, and the flowers and fruit are different from false Solomon's seal's, so you'd have to be very careless to confuse the two plants. Be aware anyway of false hellebore and try to spot it in swamps, as it's deadly, and you never know when the boss might drop in for dinner!

Break or cut off false Solomon's seal shoots when they first appear, before the leaves unfurl about two weeks later and the shoots get too fibrous to eat. The berries on the East Coast are horribly bitter, but they're reportedly delicious on the West Coast, possibly because it's a different subspecies.

The rhizomes are very bitter and poisonous, with a strong laxative effect. While some foragers have tried to counter this by boiling them in lye overnight, this may not work, it isn't worth the effort or the risk, and this is no lye!

This native plant grows in rich, partially shaded woodlands and moist areas, along stream banks, and in clearings and meadows throughout most of eastern North America, and other very similar edible subspecies grow throughout much of the rest of North America.

The shoots taste like asparagus, but better. Add them raw to salads and sandwiches, or cook them for 10–15 minutes. They're superb in recipes that call for cooked vegetables, and they're much more common than Solomon's seal.

This plant hasn't been analyzed nutritionally and herbalists don't use it nowadays, but Native Americans applied a poultice of the roots to sunburns.

They also dried and smoked the rhizomes to treat hyperactivity and depression, and to suppress coughs, but this hasn't been tested scientifically, and may not be safe.

RECIPE

Wild Rice Pilaf

Here's a simple and easy recipe, featuring wild rice and false Solomon's seal, that's as tasty as it is filling.

4 cups vegetable stock

1-½cups wild rice

1 red onion, chopped

2 medium carrots, sliced

2 celery stalks, sliced

1 cup false Solomon's seal shoots, chopped

6 cloves of garlic, peeled and left whole

2 tbsp olive oil

2 tsp Vege-sal (a seasoned salt available in health food stores) or seasoned salt, or 1 tsp salt

1 tsp rosemary, ground

1 tsp smoked paprika

1 tsp sage, ground

1 tsp prepared mustard

Simmer all ingredients together for 2½ hours, or until all the liquid has evaporated or been absorbed.

Serves 6

Preparation time: 15 minutes

Cooking time: 150 minutes

Solomon's Seal
(*Polygonatum biflorum*)

Family: Asparagaceae, the asparagus family
Other names: True Solomon's seal, smooth Solomon's seal, small Solomon's seal

This colonial native perennial springs from a stout, whitish, knobby, segmented rhizome, which bears scars from previous years' growth at regular intervals, like impressions of a signet ring. In early spring, an unbranched, gracefully arching, zigzag, pencil-like stem grows from 1 to 6 feet long, tightly wrapped around the top by the undeveloped leaves.

The long, pointed, elliptical, smooth-edged, hairless, alternate leaves open in less than two weeks after this shoot appears. Growing up to 6 inches long and 4 inches wide, they turn yellow in autumn. They're stalkless, and the leaf bases clasp the stem.

In late spring or early summer, twelve to twenty tubular, six-parted, bell-shaped, whitish green to pale yellow-green flowers bloom, hanging under the upper portion of the stem. They look like small lily flowers, and the plants are related. The flowers grow in twos or threes, from ½ to ¾ inch long, dangling from long, slender, branched flower stalks that droop from the leaf axils. Later in the summer, groups of two or three dark blue, spherical berries, up to ½ inch across, supersede the flowers.

False Solomon's seal (see p. 74) looks similar, it's true, but you can tell them apart because false Solomon's seal's rhizome is yellow-brown, not white, and its flowers and berries grow at the tip of the stem. Other edible relatives also have different flowers, fruits, and roots.

The deadly false hellebore (*Veratrum viride*) has an upright green shoot, but it's the width of the fat crayons toddlers use, not like a slender pencil. The shoot and mature leaves of false hellebore are deeply pleated, like an accordion, and the flowers and seeds are different from Solomon's seal's, but you should still be aware of this toxic swamp plant.

Solomon's seal grows in rich soil, in partially shaded woodlands and moist areas, along stream and pond banks and roadsides, in ditches, clearings, meadows, and gardens, where it's sometimes planted as an ornamental. It ranges throughout most of North America east of the Rockies, and foragers in the Pacific Northwest report finding it there too.

The shoot is in season for two weeks or less, toward the second half of early spring, before the leaves unfurl and the stem becomes too tough to eat. Cut or break them off the stems.

The rhizome is in season in fall and early spring, but it shouldn't be uprooted, unless it's grown in a garden, because the plant is rarely plentiful enough for this. Even though the shoot grows back, collect only a small proportion where the plant is abundant and leave it alone entirely in areas where it's legally protected.

The tender, young shoot tastes like asparagus, a relative, but better. Discard the acrid leaves and enjoy the shoots raw in salads or sandwiches (it's a fantastic trail nibble too), or steam or simmer them for 10–15 minutes in any dish that calls for vegetables. The berries are inedible.

The rhizomes are a little sweet and crisp, like water chestnuts. They're good raw, sliced and roasted in a light vegetable oil with sweet spices, or dried and ground into flour. They're also excellent in soups, stews, and casseroles, cooking in 10–15 minutes. If you garden, grow them. If not, get a friend to do so!

A decoction of the root is used for lots of ailments, from indigestion to coughs. It's used for menstrual cramps, PMS, bleeding, high blood pressure, and increasing concentration and mental clarity.

A poultice of the roots has been applied topically on cuts and bruises, acute injuries of tendons, joints, ligaments, muscles, bones, bruises, connective tissues, and cartilage, as well as for osteoarthritis, but this plant hasn't been tested scientifically.

RECIPE

Solomon's Dip

Here's a simple dip you can make in minutes that's better than any expensive versions you may have bought, definitely fit for King Solomon, who'd certainly give it his Solomon's seal of approval!

1¼ cups silken tofu, drained

1 tsp brewer's yeast

1 tsp brown rice vinegar

1 tsp Vege-Sal or seasoned salt

1 tsp hot paprika

1 tsp Tabasco sauce, or to taste

¼ tsp black pepper

2 tsp vegan butter substitute, or corn or olive oil

2 tbsp lecithin granules

1⅓ cups Solomon's seal shoots or drained canned artichoke hearts, chopped

1. Purée all ingredients except the Solomon's seal shoots until smooth in a food processor.

2. Add the shoots and chop until well-integrated but not puréed.

Yields: 2 cups

Preparation time: 10 minutes

Ostrich Fern
(*Matteuccia struthiopteris* or
Pteretis pensylvanica)

Family: Onocleaceae
Other names: Fiddlehead fern, garden fern, hardy fern

This especially delicious colonial fern first forms an emerald-green fiddlehead, tightly rolled up (like the curved, narrow end of a violin) atop a stout, upward-tapering base. Unlike other ferns, a distinctive groove runs along the length of the fiddlehead, on the opposite side of the unrolling leaflets. It's also covered with distinctive, large, brown, papery scales. In addition, it's smooth, not hairy like fiddleheads of many other species.

Underground, a thick, braided rhizome with black roots creeps along, sprouting the new fronds. Throughout the colony, a black, rough, knobby tangle of dead material lies just above ground level.

The ostrich fern gets quite large when mature, growing from 2 to 6 feet tall. Curved, unbranched, and feathery, the infertile (nonreproductive) frond really does look like an ostrich's plume, with one distinct central stem per frond. From twenty to sixty toothed primary leaflets arch away from the main stem on each side. These fronds narrow abruptly toward the tip, with leaflets getting increasingly smaller and tapering toward their bases.

The rigid leafstalk grows to about 1 foot long. It's deeply grooved at the base, but ungrooved above. Curving outward, the fronds form a distinctive vase shape.

From five to seven much smaller fertile (fruiting) fronds, up to 2 feet tall, grow inside the "vase." They bear rounded, pod-like sori, which contain spores. Dark green at first, they become stiff, dense, and leathery, and look a little like bird tails. The woody fertile fronds overwinterv

Poison hemlock has finely divided, fernlike leaves, but never forms fiddleheads. Other fern fiddleheads are hairy or don't have the groove at the base of the stem. These usually aren't tasty, and some are of unknown edibility.

The ostrich fern is a circumpolar species native to eastern North America and southeastern Canada, as well as northern Europe and parts of Scandinavia. You can find it in partially shaded or sunny areas, on rich damp ground, in swamps and moist woods, along riverbanks, on alluvial plains, and in expensive gourmet restaurants! It's one of the few wild foods chefs know about.

It's a short season of about ten days, toward the end of early spring, varies year by year, according to how long winter has lasted, so I often schedule my foraging tours in fiddlehead territory, which I have to do months in advance, too early or too late. Once you know where ostrich ferns grow, check your location frequently as the fiddlehead season comes close.

Snap off "half" the fiddleheads and their stems from each cluster with your fingers, or cut them off with a knife. Fiddleheads don't grow back after you cut them, so leave the rest to provide food for the rhizomes, so you don't kill the plant. Don't gather poisonous unrolled ferns, and collect a small proportion only where the ferns are very abundant. This plant can be harvested sustainably for decades using common sense, or wiped out quite rapidly if selfish commercial harvesters get at it.

Rub off the scaly membranes under room temperature running water in a tall colander set into a shorter bowl. Drain, chop, and then steam, simmer, or sauté the fiddleheads for 5–10 minutes. They taste like a combination of asparagus and snap peas, but can be somewhat dry, so add a light sauce, such as lemon sauce. The contrast will turn the dryness into an asset. Avoid over-

seasoning or overcooking fiddleheads, and don't combine them with many other ingredients, or you'll drown out their wonderful but delicate flavor.

Fiddleheads provide vitamin A; niacin; some vitamin C; the minerals potassium, phosphorus, magnesium, and iron; and the trace minerals manganese, zinc, and copper. They're also relatively high in protein. They're not used medicinally.

RECIPE

Ostrich Casserole

I've always found fiddleheads difficult to cook with because it's so easy to drown out their delicate flavor, but baking them over noodles with a mildly seasoned sauce brings out the best of these young ferns.

4 cups whole-grain noodles

4 cups ostrich fern fiddleheads, coarsely chopped

Sauce Ingredients

2 cups vegetable stock or water

3 tbsp arrowroot or kudzu

4 cloves of garlic

¼ cup vegan butter substitute or olive oil

¼ cup white miso

½ cup silken tofu

2 tbsp goutweed or parsley

½ tsp fresh ginger or ¼ tsp powdered ginger

¼ tsp black pepper

1. Cook the noodles a few minutes less than instructed and drain.
2. Meanwhile, purée all the sauce ingredients together in a blender.
3. Layer an oiled casserole dish with half the noodles, ⅓ of the sauce, half the fiddleheads, half the remaining sauce, the remaining noodles, the remaining fiddleheads, and the remaining sauce.
4. Bake in a preheated 350°F oven for 30 minutes or until bubbly.

Serves: 6

Preparation time: 30 minutes

Cooking time: 30 minutes

Common Greenbrier
(*Smilax rotundifolia*)

Family: Smilacaceae, the greenbrier family
Other names: Catbrier, Bullbrier, Horsebrier, Blasphemy Vine, Stretchberry

When I was teaching myself to forage, I was surprised to read about what seemed to be a very unusual vegetable and even more astonished when I soon spotted it along the side of a trail a few days later, looking just like it did in the field guide I was using. A very distinct native, it's quite tasty and it's widespread throughout the eastern and south central United States and eastern Canada, so it's a great one for other beginners to look for.

It's a green, high-climbing, zigzag shaped, vine-like shrub—not a true vine because it's woody. Armed with large stiff spines, it sometimes forms a tangled, impenetrable mass, held in place with paired tendrils emerging from the leafstalks.

Growing from 2 to 5 inches long, the smooth, leathery, round to heart-shaped, alternate leaves have pointed tips and parallel veins. The leaves have no teeth, which all the thorns make unnecessary!

The common greenbrier has small, tubular, six-petaled flowers that look like lilies, with which this shrub used to be classified, but they're smaller than most other lilies. They're yellow-green and grouped in small, flat-topped clusters. They bloom in the spring. Male and female flowers grow on separate vines.

The spherical berries, powdered with a waxy, bluish bloom, ripen in autumn. They're small, dry, and rubbery, accounting for the name "stretchberry." Inside are usually two seeds that are too hard to eat.

Other greenbrier species (*Smilax* spp.) that look like common greenbrier are also edible. The only other similar vine, carrion flower, is also edible. It's nonwoody and has no thorns, so the two vines are easy to tell apart.

Look for greenbrier in partially shaded habitats. It grows in thickets, old fields, edge habitats, open woodlands, and clearings; along roadsides; and near the seashore. It climbs on trees, fences, and any other stable structure.

The leaves, tendrils, and shoots (the rapidly growing, tender tips) are all edible in mid-spring. After that, the older leaves and tendrils become tough, and by mid-summer, only a few small leaves and the tips of the shoots provide a trail nibble.

Strip off the young leaves and tendrils with your fingers, and break off the tender parts of the shoots. The flowers are too small to be worth the bother. The berries, touted in some foraging books, only make an outstanding food for anyone who enjoys eating the erasers of pencils!

One of my favorite leafy greens, greenbrier has a wonderful, sweet sour flavor, ideal for salads and sandwiches, and great in any dish that calls for veggies, cooking in about 5 minutes. When you find it in the field, it's hard to stop nibbling!

RECIPE

White Beans Supreme

Beans, although very nutritious, are intrinsically unspectacular, but this shortcoming is cured by using piquant greenbrier leaves and plenty of savory seasonings, as you'll find out when you can't resist something a dish that's not at all boring!

1½ cup white beans, soaked overnight or steeped for 1 hour in water just off the boil, rinsed, and drained

5 tbsp olive oil

1 onion, chopped

3 cups greenbrier leaves, shoots, and tendrils, or other greens, chopped

3 cloves of garlic, chopped

2 tbsp dried wakame seaweed, soaked to reconstitute, drained, and chopped

1 tbsp savory, ground

¼ cup fresh basil, chopped

2 tsp tarragon, ground

2 tsp lemon thyme or thyme, ground

1 tsp black pepper, ground, or to taste

3 cups vegetable stock

⅓ cup white (mellow) miso

1. Pressure cook the beans in the stock with the basil, savory, tarragon, thyme, pepper, and 1 tbsp of the olive oil for 20 minutes or simmer, covered, for 3 hours or until the beans are tender.
2. Meanwhile, sauté the onion in the remaining olive oil for 15 minutes.
3. Add the greenbrier and garlic and sauté for another 5 minutes.
4. Add the sautéed veggies to the beans and simmer for 10 minutes.
5. When the beans are tender, add ¼ cup of them to a blender with ½ cup of the liquid and the miso. Purée and then stir into the remaining beans.

Serves: 4–6

Preparation time: 30 minutes

Cooking time: 30 minutes

Watercress
(*Nasturtium officinale*)

Family: Brassicaceae or Cruciferae, the mustard, crucifer, or cabbage family
Other names: Brooklime, brown cress, cress, cresson, nasturtium, water cresses, true watercress

This European perennial escaped into the wild of America and became the better for it. Identical-looking to store-bought watercress, it usually floats in dense mats in shallow, cold, flowing, fresh water, first appearing toward the end of early spring.

A hairless, toothless mustard, its fleshy, trailing, hollow stems attach to fibrous, white roots at nodes, growing upright at their ends. If the roots detach, flow downstream, and encounter an obstacle, they take root and form a new colony.

The delicate, shiny, basal leaves, which turn purple in cold weather, grow from 1½ to 6 inches long. The fleshy, wavy-edged, feather-compound leaves divide completely into three to eleven smooth-edged, oblong to oval, opposite leaflets. The terminal leaflet is the largest. The youngest leaflets aren't divided.

In early summer, terminal racemes of tiny, white, four-petaled flowers, ⅛ inch across, grow above a grooved, hollow stem that grows up to 6 inches tall. Other racemes also emerge from the upper leaf axils. Lower down, alternate leaves—similar to but smaller than the basal ones—grow from leafstalks that partially clasp the stem.

In mid-summer, the flowers turn into short, slender, slightly curved, cylindrical seed capsules 1 inch long, growing at the ends of long seed stalks with four rows of tiny, spherical seeds inside.

People confuse this plant with winter cress, but that edible relative has much thicker, glossy leaves and grows near the water, not in it.

Watercress's basal leaves of early spring and fall are the best, similar to store-bought watercress, but more flavorful. When the plant flowers, the leaves become harsh tasting, although still edible. The flowers, young seedpods, and tender parts of the stems are edible in the summer, but they're nowhere nearly as abundant or good as the basal leaves.

The basal leaves are also edible in early winter, if everything isn't frozen, but frosts cut the plant down to the level of the water, and they are entangled with large quantities of dead plant material that take forever to remove.

There are no poisonous look-alikes, but if the water is contaminated with pathogens, don't consume the plant raw. You could get sick even if you rinse it off. The only way to protect yourself is to bring a lawyer with you, then the parasites can attack each other and leave you alone!

Watercress grows in sunny, shallow, fresh, moving water and ditches; on wet ground; in springs; and along the edges of lakes and streams throughout most of North America.

Watercress leaves, flowers, young stems, and young seedpods have a strong, spicy flavor that adults love, but many kids hate. Add it raw to salads and sandwiches, or cook for 5–10 minutes in soups, sauces, casseroles, or other vegetable dishes and entrées. It makes dishes with bland ingredients such as potatoes, tofu, or pasta more interesting, and more than holds its own in dishes with other spices. The seedpods are tiny and hard to collect in quantity, but you can use them to make prepared mustard.

This is one of the most nutritious foods on the earth, with more vitamins A and C, carotenoids, folic acid, iron, and potassium than anything you can buy. It's a great source of flavonoids; vitamins E, B1, and B2; as well as the minerals and trace minerals phosphorus, sodium, iodine, manganese, sulfur, zinc, copper, cobalt, and vanadium. It also provides arginine, aspartic acid, biotin, glutamic acid, glycine, histidine, isoleucine, lysine, methionine, pantothenic acid, phenylalanine, serine, threonine, tryptophan, tyrosine, and valine.

Watercress also contains phenethyl isothiocyanate, which helps prevent cancer and inhibits it once it's present. Hippocrates used an infusion of the plant as a stimulant and expectorant. It's a traditional gentle diuretic, cleansing and toning the urinary tract and promoting the flow of urine. Herbalists gave it to convalescents, who would have benefited from its concentration of nutrients, just like chickweed (see p. 6). They also used it to treat tuberculosis, the best they could do before effective antibiotics were developed.

A poultice of the leaves was applied externally to glandular tumors, lymphatic swellings, and chronic skin irritations and inflammations. This hasn't been tested.

RECIPE

Watercress in Peanut Sauce

Here's a great Indian-style vegetable side dish you can make with wild or store-bought watercress. The plant's strong flavor shines through the spicy sauce. Serve with whole grains, noodles, or bread.

¼ cup peanut oil

2 tsp mustard seed

1 tsp cloves

½ tsp coriander

1½ inch cinnamon stick

2 cloves of garlic

12 cups watercress, chopped

1 package soft tofu, drained and diced

Sauce Ingredients

1 cup water

½ cup peanut butter

Juice of 1 lime

2 tsp salt

1 tbsp nutritional yeast

1 tbsp chili paste, or to taste

2 tsp arrowroot

1 tsp cardamom, powdered

1. Cook the mustard seeds, cloves, coriander, and cinnamon stick in the peanut oil over medium heat for 2 minutes or until the mustard seeds begin to pop.
2. Add the tofu and garlic and sauté for 5 minutes.
3. Add the watercress and sauté for another 2 minutes.
4. Meanwhile, purée the sauce ingredients in a blender.
5. Pour the sauce over the sautéed ingredients and bring to a boil over medium heat, stirring constantly. Reduce the heat to low and simmer, covered, for 10 minutes.

   Serves: 4–6

   Preparation/cooking time: 30 minutes

Poor Man's Pepper
(*Lepidium virginicum*)

Family: Brassicaceae or Cruciferae, the mustard, crucifer, or cabbage family
Other names: Virginia pepperweed, peppergrass

Poor man's pepper got its common name because people used this native plant after it became widespread in Europe, during the Age of Exploration. Spices were in demand, to cover up the taste of partially spoiled food in times of need, but imports from Asia were too expensive for most people, who used poor man's pepper instead.

This small- to medium-sized, spicy-flavored annual begins with a basal rosette in early spring, growing above a small, white taproot. The narrow, stalked, lobed basal leaves grow 2–5 inches long. Soon the lobes turn into deep, sharp teeth that point toward the leaf tip.

Dandelion (see p. 44) leaves look similar, but the teeth point to the leaf base, and its leaves—along with those of its edible relatives—contain white, milky sap, which poor man's pepper lacks.

Soon, a long, wiry, branching stem grows from the center of the rosette, reaching around 1½ feet tall where mowing doesn't occur, and the basal leaves vanish. You'll find this form from mid-spring to fall, although some new rosettes reemerge in mid and late fall. The stem bears linear to lance-shaped, toothed, alternate, usually stalkless leaves (smaller than the basal ones) that taper toward the base.

Racemes grow at the tips of the branches from spring to fall, covered with many tiny, short-stalked, white flowers, ⅛ inch wide. The four petals form a cross, like all mustards. The flowers develop into small, flat, short-stalked, circular seedpods, also ⅛ inch wide, with very slightly notched tips in the summer and fall. This form resembles a bottle brush. Subsequently, the plant whitens and dies, leaving a branched skeleton that often persists into the winter.

This common mustard grows in sunny and partially shaded habitats, on lawns, in gardens and parks, along roadsides, and in disturbed habitats, fields, and meadows throughout the United States as well as in eastern and western Canada.

As with other basal rosettes, you can sweep a knife under its center to cut off the root and get the entire rosette in one motion, although picking the leaves one by one works too. Strip the flowers, leaves, and seedpods off the branches, which are too tough to eat. The taproot is sometimes tender enough to eat when the plant is young, but it's so small, I don't find it worth the effort.

Poor man's pepper tastes like radish, horseradish, and wasabi. You can use all aboveground parts except for the wiry stem raw in salads or sandwiches, or in any cooked dish that calls for pungent greens. It cooks in about 10 minutes. You can also purée the green seedpods (the seeds inside are too small to use) in a blender with vinegar, spices, and salt to make prepared mustard.

The leaves supply vitamin C, calcium, iron, and potassium. Herbalists have used infusion of the leaves for diabetes, to expel intestinal worms, as a diuretic, and to reduce the pain of arthritis. An infusion of the seedpods has been used for coughs and asthma, to assist expelling phlegm, and to help with the accumulation of liquid in the chest, although the plant hasn't been tested scientifically.

RECIPE

Beluga Beans with Poor Man's Pepper

Spicy ingredients are great with beans, and poor man's pepper is certainly the right choice for belugas, resulting in a whale of a recipe!

1 cup beluga beans, rinsed and picked free of debris

3 cups vegetable stock

¼ cup poor man's pepper leaves, chopped if large, or seedpods

1 tbsp vegan bacon bits

1 tbsp vegan butter substitute or olive oil

1 tsp marjoram, ground

6 tbsp field garlic leaves or bulbs, or 3 scallions, chopped

2 tbsp white (mellow) miso

1. Pressure cook all ingredients except the miso together for 15 minutes over high pressure, or simmer, covered, for 40 minutes or until the beans are tender.
2. Drain, mix the miso into ¾ cup of the drained liquid with a whisk, and stir this back into the beans.

Serves: 4–6

Preparation time: 15 minutes

Cooking time: 15 or 40 minutes

Curly Dock
(*Rumex crispus*)

Family: Polygonaceae, the knotweed, smartweed, or buckwheat family

Other names: Curled dock, yellow dock, sour dock, narrow dock, narrow-leaved dock, garden patience

This large, common, European perennial is common, easy to recognize, and very tasty and nutritious. It begins with a basal rosette emanating from a large, stiff, yellow, branching taproot in early spring. The long, narrow, smooth, toothless, stalked leaves grow up to 2 feet long and nearly 2½ inches wide. The very wavy margins of these narrow leaves make them quite distinct. A branched stem up to 3 feet tall appears in mid-spring, with alternate leaves similar to but smaller than the basal ones. The base of the short leafstalk wraps around the stem, forming a sheath. The stems' branches become draped with dense clusters of small, inconspicuous, green flowers in the summer, superseded by reddish-brown seed clusters in summer and fall.

Break or cut off the basal leaves and leafstalks in early spring, before the flower stalk appears, and again in mid and late fall as well. They're edible, cooked, in the summer, but too bitter for many people. The new immature flower stalk is good in mid-spring. Too hard and bitter to eat, you can dig up the taproot for medicinal purposes, in the spring, summer, and fall.

Curly dock grows in sunny and partially shaded habitats throughout the United States, southern Canada, and much of the rest of the temperate world. I even spotted it on the southern tip of South America. It's especially common in disturbed habitats, as well as in fields, along roadsides and riverbanks, and near the seashore.

Bitter dock, also edible, but not as tasty, looks similar to curly dock, but with much broader lacking the very curly edges. On the other hand, beware not to confuse "Curly" dock with Moe Dock or Larry Dock—Nyuk! Nyuk! Nyuk!

The young leaves of early spring and new leaves of autumn are excellent raw in salads and sandwiches, with a wonderful lemony flavor. They're even more lemony cooked for 2–5 minutes. Place the rinsed, chopped leaves in a heavy pot, for example, cover, and cook over low heat for a few minutes, until just wilted. Season with salt, pepper, or any savory or sweet herbs that you like, plus a dash of the oil of your choice, and serve piping hot. Don't sauté, or they'll get mushy. You can also cook the young leafstalks, which I find too tough to eat raw, for 2–3 minutes as well. The peeled immature flower stalks, in season in mid-spring, are great raw (like a lemony celery) and excellent cooked too. The seeds are too tiny to eat, and they're inside hard husks that in turn grow inside a dense cluster of papery bracts. Some authors suggest grinding the "seeds" into flour, but you're really making 99 percent chaff flour, nonpoisonous, and about as tasty and nutritious as eating paper.

Other authors quake in fear from curly dock's oxalic acid content, but the concentration is equivalent to that of spinach, so unless you've such severe kidney disease that spinach is off the menu, there's no danger whatsoever. This highly nutritious "weed" provides vitamins A, B1, B2, B3, and C, plus the minerals iron, potassium, calcium, manganese, and phosphorus. Herbalists used the leaves to treat anemia, effective if the anemia was caused by iron deficiency. It's also been used as a blood purifier or detoxifier for skin conditions, glandular inflammations, and swellings. It contains rumicin, a liver decongestant that stimulates the production of bile, and studies have shown it to help the body expel heavy metals, of no concern to me, as I'm a jazz fan! A decoction is used as stomach tonic. It contains emodin, which stimulates peristalsis and helps with constipation, although an overdose can cause diarrhea. It may slow the growth of cancer, although further research is needed.

The root's tannin makes it an astringent. As such, it's used to stop bleeding —so when an injured Dr. Beverly Crusher spotted it growing on another planet in an episode of *Star Trek: The Next Generation* (I told you it's very

widespread!), she had Captain Jean-Luc Picard apply the yellow taproot to her bleeding wound, and it saved her life! Curly dock also contains anthraquinones, used for ringworm and other fungal skin infections. In England, it's used interchangeably with bitter dock and burdock (see p. 310) for nettle stings. You rub the leaves on the affected area and recite, "Dock in, nettle out." However, scientific testing shows it to be no better than placebo, so stick to proven herbal medicines such as jewelweed, common plantain, or long-leaf plantain.

RECIPE

Greens and Beans

Curly dock adds the perfect spark to white beans.

2½ cups vegetable stock

1 cup white beans, soaked overnight or steeped for 1 hour in water just off the boil, rinsed, and drained

¼ cup fresh goutweed, honewort, or parsley, chopped

4 cloves of garlic, chopped

1 tbsp olive oil

1 tbsp vegan bacon bits

1 tsp thyme, ground

1 tsp marjoram, ground

1 tsp oregano, ground

1 tsp sage, ground

¼ tsp black pepper, ground, or to taste

1½ cups curly dock leaves

¼ cup white (mellow) miso

2 tbsp vegan butter substitute or sesame oil

1. Cook the beans along with all the remaining ingredients except for the miso in a pressure cooker over high pressure for 20 minutes, or simmer in a heavy saucepan, covered, for 2–3 hours or until the beans are tender.
2. Drain the beans and reserve the stock.
3. Mash ½ cup of the beans with ½ cup of the stock and the miso, then stir this into the rest of the beans.

Serves: 4

Preparation time: 25 minutes

Cooking time: 20 minutes

Yellow Wood Sorrel
(*Oxalis stricta*)

Family: Oxalidaceae, the wood sorrel family
Other names: Sourgrass, shamrock, pickleplant

This common, widespread, delicious plant is one of the first wild edibles I learned, and it's always been one of my favorites. It's so tasty and easy to recognize, it's one of the best to teach kids too.

This medium-sized plant has a weak, green to pink stem, branched at the base, and grows from 6 to 18 inches tall. It can also creep along the ground. Rhizomes and fibrous roots underlie the stems.

The alternate, palmate-compound leaves, which grow about ¾ inch across, consist of three distinctive, heart-shaped leaflets, each with a seam running down its length. Superficially, it resembles clovers (see p. 118), but clovers have oval leaflets. Therefore, yellow wood sorrel reminds me of my young daughter, who I love, because of the hearts, while clover, which has oval leaflets and no

hearts, reminds me of my ex-girlfriend who ran off with another guy on Valentine's Day in 1995. She also has no heart!

The radially symmetrical, yellow, five-petaled flowers, ⅓–¾ inch across, bloom on the stem from late spring to fall. They only open when it's sunny, so people used to think they predicted rain when they were closed.

They develop into banana- or pickle-shaped seedpods. *Stricta* means narrow, and they're slender, as well as upright, pointed, and ridged. Sparsely hairy, they also have flat sides with five sepals at the base. Inside are tiny, spherical, reddish-brown seeds that pop out if you touch it, as the mature pod splits.

Sheep sorrel (see p. 29) sounds and tastes like yellow wood sorrel because the name they share means sour in Old French, but the plants look completely different. Other wood sorrel species (*Oxalis* spp.) with similar leaves and

different flowers or seeds are also edible, but they grow in other parts of the country, and I never find them in the Northeast unless they've been planted.

You can find yellow wood sorrel in abundance from the end of early spring to the start of late fall. Sometimes sheltered spots will produce small amounts of tiny plants pre- or postseason.

Yellow wood sorrel grows in sunny or partially shaded habitats; on lawns; in gardens; along edges, trailsides, and roadsides; in fields, meadows, and thickets; on disturbed soil; and in partially sunny spots in the woods. This European plant grows throughout most of the United States and southern Canada, except for the West Coast and Rocky Mountain states.

Strip off the leaves, flowers, seedpods, and any tender parts of the stems with your fingers, holding down the rest of the plant with your other hand, to avoid collecting the tougher parts of the stems.

One of the tastiest ingredients you can add, raw, to salads and sandwiches. It's also quite good in any cooked dish that can benefit from some sourness, although it loses some of its strength cooked, especially in comparison to sheep sorrel. It cooks in 5–10 minutes.

A great source of vitamin C, an infusion of the aboveground parts is supposed to be cooling—a refrigerant, a febrifuge, as well as a diuretic. It's been used for fever, cramps, and nausea, but hasn't been tested scientifically.

Warnings about this plant's oxalic acid content are highly exaggerated. It's the same oxalic acid as spinach and it's just as dangerous. Unless you've kidney disease and can't eat spinach, there's nothing to worry about. We've been eating it in quantity on most of my public tours and on school trips since 1982 and it's never caused any problems.

RECIPE

Wood Sorrel Curry

Wood sorrel adds a sour touch to this simple curry. I used mushrooms I happened to have on hand, but you can substitute any other wild or store-bought species. I use konjak, a little-known plant thickener, here, because it works really well.

¼ cup coconut oil

2¼ cups firm tofu (1 1-lb. package), drained and diced

1 large red onion, diced

½ cup raw cashews, chopped

⅓ cup milky hygrophorus mushrooms (*Lactarius hygrophoroides*) or other mushrooms, chopped

2 tbsp spring agaricus mushrooms (*Agaricus bitorquis*) or other mushrooms, chopped

3 cups coconut milk

3 tbsp red curry paste, or to taste

1 tbsp konjak

2 cups wood sorrel, chopped

1. Sauté the tofu, onion, cashews, and mushrooms in the coconut oil for 10 minutes.
2. Meanwhile, purée the curry paste and konjak with the coconut milk in a blender.
3. Pour the blended ingredients into the sautéed ingredients, add the wood sorrel, and bring to a boil over medium heat, stirring constantly. Reduce the heat to low and simmer, covered, for 10 minutes, stirring occasionally.

   Serves: 6

   Preparation time: 30 minutes

   Cooking time: 20 minutes

Stinging Nettle
(*Urtica dioica*)

Family: Urticaceae, the nettle family

Other names: Burn nettle, burn weed, burn hazel, mountain nettle, nettle, giant creek nettle, hoary nettle

A well-known wild food, medicine, and nuisance plant, this species is covered with tiny hypodermic needles that inject unwary victims with acetylcholine, histamine, serotonin, and formic acid. A colonial perennial and the namesake of its family, its erect, somewhat stout, 4-sided, unbranched, hollow stem grows from 3 to 7 feet tall. It spreads through creeping, branching rhizomes, as well as seeds. Growing 2–6 inches long and 1–2 inches wide, the long-stalked, opposite leaves are oval and dark green, with a rough, papery texture. The long tip is pointed, the base is heart-shaped, and the teeth get larger toward the tip.

A pair of stipules grows at the base of each leafstalk. Tiny, green, inconspicuous flowers bloom from late spring to early fall, growing on long, slender, paired panicles suspended from the upper leaf axils. Male and female flowers grow on separate plants. The fruits resemble the flowers, but with tiny seeds inside.

Stinging nettles have no poisonous look-alikes, but there are similar-looking edible and inedible species. Slender nettle (U. gracilis) looks like stinging nettles, but with sparse stingers and none on the leaves' upper surfaces. The leaves are lance-shaped, not oval. Wood nettles (Laportea canadense) leaves are larger and rounded, opposite when young and alternate when mature. They're both edible, and you use all three species the same way.

Clearweed (*Pilea pumila*) is a similar-looking inedible relative with a translucent stem and no stinging hairs. Here's how I know it's nonpoisonous: Back in 1982, when I had just begun leading foraging tours, I encountered a group of Boy Scouts with their adult troop leader collecting clearweed in Forest Park, Queens, NYC.

“What are you gathering?” I asked.

“We're collecting stinging nettles, and we're going to eat them,” one of them answered. “We've been collecting and eating them for years.”

“It's clearweed, not stinging nettles,” I replied. “It has no stinging hairs, and the stem is translucent green. I'm an expert. I know what I'm talking about. Without stingers, it can't possibly be stinging nettles.”

“It's stinging nettles,” he replied. “We've been eating it for years, and we're going to keep collecting it and eating it!”

Nothing I could say convinced them. So if you happen to be walking in Forest Park and see a group of middle-aged men and one senior citizen with a long, gray beard, all in tattered scout uniforms, chowing down on clearweed, you'll know why!

Henbit deadnettle (*Lamium amplexicaule*) is a foully, musty-smelling, nonpoisonous, hairy mint with drooping, opposite leaves and a square stem, plus small, conspicuous, 2-sided, pink flowers. A softly hairy plant, it doesn't sting. This European plant tastes quite awful to me, although English foragers tell me it's quite delicious there—in comparison to English food, anything would taste good! Catnip (Nepeta cataria) has a square stem and opposite leaves like stinging nettles, but no stinging hairs, and downy leaves are downy. It smells minty, and it attracts cats!

Stinging nettles grow in partially shaded, moist, rich soil, in disturbed habitats, fields, and open woodlands; along edges of trails; in thickets; and

along riverbanks, throughout most of North America and the temperate world.

Harvest wearing work gloves or rubber gloves, or place your hand inside a plastic bag. Long pants and long sleeves also make things easier. Strip or cut off the leaves of plants less than 9 inches tall, plus the small top leaves of larger plants. You can use the tough stems for making tea.

If you get stung, rub the juice of jewelweed (Impatiens spp.) stems or the crushed leaves of common plantain (Plantago major) or long-leaf plantain (*P. lanceolata*) on the affected area for quick relief. After Bite®, which you can get in drug stores, also works. Untreated stings hurt for about 20 minutes in some people, and for many hours in others. In England, it's traditional to rub curly dock leaves on nettle stings, but a control, double blind study done there showed that this herb is no better than a placebo.

Stinging nettle is an excellent potherb, with a rich, earthy flavor. Handle it wearing rubber gloves. Brief cooking stops it from stinging, and it's great cooked for 5–15 minutes in any savory recipe. Just don't boil it in water, as some sources suggest. That ruins the flavor. The plant also makes an excellent tea, where you can use parts that are too tough to eat.

Highly nutritious, it provides more protein than any other green, plus carotenoids, vitamins C, K, and B-complex; as well as chlorophyll, lecithin, choline, linoleic acid, linolenic acid, flavonoids, palmitic acid, pantothenic acid, quercetin, sterols, tannins, and over thirty other biologically active compounds. It's also very high in readily absorbable iron, calcium, chromium, magnesium, potassium, phosphorous, manganese, silica, iodine, sodium, sulfur, and zinc.

Traditional Russian herbalists used juice wrung from lots of nettles using a cloth for what we'd call chronic fatigue today. If the cause was iron-deficiency anemia, the iron would cure it, and this juice also cures nettle stings! Nettle leaf infusion is considered a safe, gentle diuretic, supposedly restorative for the kidneys and bladder, and used for cystitis and nephritis, although the latter can kill you if the remedy doesn't work! People put it in weight loss formulas and it's very effective, only it makes you shed pounds of water, not fat! The

infusion is used as an expectorant for asthma, mucus in the lungs, and chronic coughs. It helps blood clot, probably due to its vitamin K, and it's good for excessive menstruation. It's been used for nose bleeds, which is safe to do; and for hemorrhages, bloody coughs, and bloody urine, which, again, are dangerous conditions you shouldn't treat yourself. A whole-plant tincture is used for the flu, colds, bronchitis, pneumonia, and eczema. It supposedly promotes lactation, lessens snoring, and helps regulate blood sugar, but these uses haven't been tested. Studies have shown ground freeze-dried nettle leaves to relieve or reduce the symptoms of hay fever in a third of sufferers, but because you can't patent a plant, this has gotten little notice. People also whip themselves with nettles for severe osteoarthritis, an autoimmune disorder. The plant has anti inflammatory properties, but this still needs scientific testing. Would some arthritic masochists please limp forward! Nettle tea has been used for gout, glandular diseases, poor circulation, enlarged spleen, diarrhea, dysentery, worms, intestinal and colon disorders, and hemorrhoids, as well as for digestive disorders, to stimulate digestion, often with other herbs. German doctors use root extracts for benign enlarged prostate, and Russian scientists are experimenting with nettle leaf tincture for hepatitis and gall bladder inflammation.

RECIPE

Stinging Nettle Risotto

Here's a creamy vegan rice-and-cheese casserole, punctuated by the wonderfully earthy flavor of stinging nettles.

5 cups cooked brown rice

4 cups stinging nettles or other nettle species

1-⅔ cups soy mozzarella cheese, grated

½ cup hazelnut milk or other nondairy milk

¼ cup any mushrooms, sliced

¼ cup roasted, unsalted pistachio nuts

2 tbsp Savory Marinade (see p. 315)

1 tbsp Vege-Sal or seasoned salt

1. Cover and bake all ingredients in an oiled casserole dish for 45 minutes in a preheated 350°F oven.

Serves: 4–6

Preparation time: 10 minutes

Baking time: 45 minutes

Glasswort
(*Salicornia* spp.)

Family: Amaranthaceae, the amaranth family
Other names: Samphire, pickleweed, sea bean, sea asparagus, saltwort

This is an unusual-looking upright, leafless, green, branching, jointed plant that consists mostly of a succulent stem, making it easy to spot in its seashore habitat. It grows up to 6 inches tall and turns a translucent pink in the fall.

To stop loss of water from evaporation in an environment lacking fresh water, the leaves are reduced to inconspicuous, opposite scales that you can barely make out. Minute green flowers grow in groups of three to seven. Only ⅛ inch long, they're hidden in the joints of the upper branches.

The seeds are so tiny you usually don't see them either. These features make the species, most of which are annuals (with one perennial), difficult to tell apart, but you use them all the same way. There are no look-alike plants.

Collect glasswort at low tide, wearing footwear appropriate for mud, or going barefoot. Break off the stems with your fingers. There are swarms of mosquitoes, biting sand flies, and midges too small to see, among other vicious insects in this habitat in the summer, so go early in the morning, when it's cool enough to cover yourself up, and spray insect repellant on your clothes if necessary. Sheltered bays are much better for these insects (and worse for you), while areas close to the open ocean and windy days make things more difficult for the insects.

Glasswort grows on mud flats and salt marshes, along shores, where it's sometimes submerged at high tide. You can find it along East Coast, the Gulf Coast except for Utah, and the California coast. It's native to the United States as well as to Europe, South Africa, and South Asia. Wherever it originated, it probably rafted across the ocean with fallen trees, grasses, and mud to have become distributed so widely.

Glasswort is in season from mid-spring to early fall. It tastes best when it first comes up, and later on it develops a tough core that needs to be removed.

This crunchy vegetable tastes like spinach and asparagus to me. It's so good that purveyors of gourmet foods are trying to bring it into the marketplace as an exotic vegetable. However, it's name, glasswort, is a turnoff. "Wort" is simply an old word for plant and because of its silica content, it had been used in the manufacture of glass, but that's not going to help sales, so marketers are selling it as "sea beans," even though it's in the amaranth (see p. 59) family and has nothing whatsoever to do with beans.

I detect a bitter aftertaste when I eat it raw, although some foragers don't, so I cook it for 10–15 minutes in soups, stews, and grain dishes. It also makes great pickles. In seasons when it's a tough core, you can cook it by itself, let it cool, then remove the core with your fingers, and add the glasswort to any dish that calls for vegetables, if desired.

To cope with its salty habitat and to stave off dehydration (salt tends to draw water out of cells that don't contain lots of salt), it takes in salt, so you don't need to add salt to any recipe that contains this plant, which is sometimes used (dried and ground) as a salt substitute.

Glasswort contains the essential fatty acid, linoleic acid, as well as lots of the aforementioned sodium, plus potassium, calcium, iron, iodine, and copper.

Juice pressed out of the plant is a traditional diuretic, but that's because it's salty, making you drink lots of water, and you know what eventually happens after that! Sodium is essential for life, but too much leads to high blood pressure in some people, and when you excrete sodium in the urine, it takes potassium (which is in short supply in the modern food-scape) along with it. So, this is one of the best herbal diuretics to avoid using!

RECIPE

Boston Baked Beans with Glasswort

There are so many great classic recipe concepts with which to experiment with. It took me thirty-three year to get to this one, and only because someone I knew had a craving for this dish. An uncharacteristic sweet bean recipe, burnt sugar extract and caramel extract (available at http://www.bickfordflavors.com/index.html) with my standard sweetener, liquid stevia, provide the sweet flavor of the traditional sugary molasses without refined

products; while barbecue seasoning replaces the barbecue sauce; and glasswort adds the saltiness and more flavor.

2 cups cooked red kidney beans

2 cups vegetable stock or water

¼ cup fruit-sweetened ketchup

2 tbsp tomato paste

2 red onions, chopped

1 large red bell pepper, chopped

5 Tofu Pups (vegan hot dogs, available in health food stores), sliced

1 tbsp olive or corn oil

¼ cup glasswort, or 2 tsp Vege-Sal, or 1 tsp salt

2 tsp black peppercorns, ground into 4 tsp, or to taste

2 tsp barbecue seasoning

1 tsp cumin, ground

½ tsp clear liquid stevia

¼ tsp caramel extract

¼ tsp burnt sugar extract

1. Mix together all ingredients and bake, covered, in an oiled casserole dish in a preheated 350°F oven for 2½ hours.

   Serves: 6

   Preparation time: 10 minutes

   Cooking time: 2½ hours

Edible Wildflowers

Some of the wildflowers that bloom at different times during the spring make delicious foods. I don't cover them all in this section, as some species (like the daylily, see p. 23) also have edible shoots and tubers. Here are plants where the main edible parts are the flowers. They're fun to collect, to use in recipes, and to serve to astonished non-foraging friends and family members.

Redbud
(*Cercis canadensis*)

Family: Fabaceae
Other names: American redbud, eastern redbud, Judas tree

This is a wonderfully beautiful, small- to medium-sized tree that landscapers love to plant and foragers delight in eating. This shrubby native has a short main trunk, a rounded crown, and zigzag stems. It grows from 20 to 30 feet tall and 25 to 30 feet wide, beginning with a vase shape. As it matures, it leans toward the sunlight or develops an irregular shape, with an umbrella-shaped crown. The bark begins dark brown and smooth, then becomes scaly and ridged, occasionally with maroon or orange-brown patches where the bark peels off.

The alternate, smooth-edged, pointy-tipped, heart-shaped leaves are quite distinct. They grow from 2 to 6 inches across and of equal length. Red-tinged bright green as they develop, they become dark green when mature and bright yellow in autumn.

While the leaves are first developing in early spring, purple-red buds cover the branches and trunk. They open into showy, dense clusters of rosy-pink, pea-like flowers when early spring gives way to mid-spring, creating a gorgeous display.

The flowers morph into persistent, flattened pods, 2–4 inches long, red when they first appear in mid-spring, next green, and finally brown. Inside are several dark brown, flat, elliptical seeds, around ¼ inch across.

Redbuds grow in sunny to lightly shaded places. They're very common in cultivated parks, but also grow in thickets and ravines, along the borders of streams and edges of woods, and in lightly shaded, moist woodlands. They grow wild in much of eastern North America, and landscapers can plant them anywhere.

The unopened buds are nonpoisonous but unpleasantly astringent, better pickled than eaten raw, but the open flowers are much better. Strip them and the immature seedpods off with your fingers.

The sweet sour, visually appealing flowers taste a little like fresh snap peas and are great in salads, sandwiches, and a large variety of cooked dishes. I add them to oatmeal when it's finished cooking, or cook them in pancake batter to make fritters. They're excellent baked into breads as muffins, and used as sprinkles on ice cream. You can freeze them with water in ice cube trays and serve these in drinks. They're also great for wine-making.

You can use the seedpods like snow peas during the first week of their appearance. Later on, they become too tough to eat. With enough simmering or pressure cooking, you might be able to make the seeds soft enough to eat (Native Americans roasted them), but they're so small, collecting enough to use would be very labor intensive.

They flowers provide vitamin C and anthocyanins, and the young pods and seeds provide proanthocyanidins and linolenic, α-linolenic, oleic, and palmitic acids.

A decoction of the cambium, which is astringent, has been used to treat dysentery and diarrhea, as well as leukemia, chest congestion, and whooping cough, but there's no supporting evidence that it works. Herbalists aren't using it nowadays, and even if it's not harmful, the serious diseases it's been used for could kill you if not treated effectively.

RECIPE

Redbud Blossom Cookies

Here's another example of how to use vegan ingredients to advantage, replacing white flour with whole grain flours, sugar with liquid stevia, and eggs with arrowroot, xanthan gum, flaxseeds, and lecithin granules. The wild redbud flowers, complemented with just the right seasonings, add a final touch to these perfect cookies. Incidentally, I designed them without any crunchy ingredients so my then-eleven-month-old daughter could safely eat them, and she loves these cookies as much as I do!

Dry Ingredients

3 cups sweet brown rice flour + 6 oz. buckwheat flour

¼ cup flaxseeds, ground into ½ cup meal

3 tbsp arrowroot

1 tbsp xanthan gum

1 tsp salt

1 tsp cream of tartar

½ tsp baking soda

1 tsp cinnamon

Ingredients to Blend

1½ cups pear juice

½ cup corn oil

¼ cup lecithin granules

2 tsp liquid stevia

½ cup currants

1 tbsp fresh lemon rind

1 tsp orange rind

1 tsp vanilla

Other Ingredients

1 cup redbud flowers

1. Mix together the dry ingredients.
2. Purée the ingredients to blend in a blender.
3. Mix the wet ingredients into the dry ingredients. Don't overmix.
4. Stir in the redbuds. Don't overmix.
5. Shape into thirty-six cookies and place on three cookie sheets.
6. Bake for 10 minutes or until lightly browned underneath in a preheated 400°F oven. Turn with a spatula and bake for another 5–10 minutes on the other side. Be careful to avoid scorching.
7. Cool on wire racks.

   Yields: 36 cookies

   Preparation time: 40minutes

   Cooking time: 20 minutes

Red Clover
(*Trifolium pratense*)

Family: Fabaceae, Leguminosae, or Papillionaceae, the legume, pea, or bean family

Other names: Beebread, cow clover, cow grass, meadow clover, purple clover, wild clover, meadow honeysuckle, meadow trefoil, trefoil, broad red, cleaver grass, mari grass

This familiar, upright Eurasian perennial, which sometimes also creeps along the ground, grows from 6 to 24 inches tall, with long, slender, downy stem branches and fibrous roots. The alternate, palmate-compound leaves are

divided into three oval to elliptical leaflets, ½–1½ inches long, and half as wide as they're long. A dark, conspicuous, V-shaped chevron centered on each leaflet's medial seam makes the plant more noticeable. Tiny magenta florets crowd into rounded flower heads at the tops of the stems, which grows up 1 inch long. There may be up to sixty bilaterally symmetrical florets, each up to ½ inch long, on each flower head. After the flowers dry out, very tiny, brown seeds are released. There are no poisonous look-alikes. White clover (Trifolium repens) is a smaller plant with white flowers, and you use the two plants the same way. However, people confuse wood sorrel (see p. 99), also edible, with clovers, but wood sorrel, with different flowers, has heart-shaped rather than oval leaves, and lacks chevrons.

Young leaves appear in early spring. The flowers are at their best in late spring, right after they bloom and develop their color, although you may still be able to find a few fresh ones in the summer and fall. Clovers like full sunlight, and are especially common in meadows, pastures, open fields, and lawns, as well as in disturbed habitats, trailsides, roadsides, and parklands.

Pull the florets off the most brightly colored flower heads with your fingers. These are much better than faded and dried out flowers. The brown ones are quite awful. You can eat the youngest leaves when they first come up, before they become hard to digest. They taste like raw string beans, but more stringy. I don't care for them, and happily relegate them to those macho wilderness survivalists who haven't bothered to track down the many much tastier plants that this book covers!

The fresh flowers are slightly sweet, with a hint of green peas, great in salads, and any dish that calls for vegetables, cooking in about 15 minutes. Sprinkle on top of ice cream, like, well, sprinkles!

Pour a cup of boiling water over a handful of flower heads to taste (you may include some leaves) and let it steep, covered, for 20 minutes. This traditional tea provides vitamins C, B1, B3, and E, as well as the minerals calcium, chromium, magnesium, phosphorus, and potassium, plus isoflavones —plant estrogens and antioxidants. These include genistein, irilone, and pratensein, which act on cellular estrogen receptors. This is bad for insects, disrupting reproduction, whereas in healthy humans, they block normal

estrogen and human-made estrogen-like environmental contaminants from promoting cell division, possibly reducing your risk of cancer, especially breast cancer. It's like having the wrong key in a lock. It won't open the door, and blocks the right key from doing so as well. Tests are underway to see if these compounds are helpful for prostate cancer. Paradoxically, if you already have cancer, the tea could make it worse, as cancer cells can be triggered to divide by substances that wouldn't affect normal cells. It should also be avoided by people with estrogen-sensitive conditions such as endometriosis, ovarian cancer, uterine cancer, or fibroid tumors. It's also contraindicated for pregnant and lactating women. This tea is also supposed to have a calming effect on some people. It's used for menopause, but research has had mixed results. It may be helpful for osteoporosis, and heart disease but research again has had mixed results.

It's been used for bronchitis, burns, ulcers, and asthma. An ointment, made by boiling the flowers in oil and thickening this with beeswax, has been used for eczema and psoriasis. There have been no mixed results here, but only because there have been no scientific tests!

RECIPE

Peachy Keen Ice Cream with Red Clover Sprinkles

Here's a flavorful, creamy ice cream you can make with wild or store-bought peaches, plus red clover sprinkles, making it even more special.

3 peaches, chopped

2¾ cups soy milk, oat milk, or nut milk

1 tbsp arrowroot or kudzu

1 tsp agar powder or 1 tbsp agar flakes

½ cup pine nuts or cashew nuts, raw

½ cup silken tofu, drained

¼ cup lecithin granules

¼ cup grape seed oil

¼ cup vegetable glycerin

1 tbsp liquid stevia

¼ tsp salt

¼ tsp powdered ginger

¼ tsp nutmeg, ground

¼ cup red clover florets

1. Simmer the peaches in the soy milk with the arrowroot and agar for 5 minutes or until the peaches are tender, stirring often.
2. Strain out the peaches.
3. Purée all ingredients except half the peaches and the clover florets in a blender.
4. Freeze in an ice cream machine according to the manufacturer's directions.
5. Fold in the remaining peaches using a large rubber spatula.
6. Serve sprinkled with the clover florets.

Yields: 5½ cups

Preparation time: 20 minutes

Freezing time: 2–3 hours (varies)

Warm-Weather Herbs, Shoots, and Greens

Some plants don't like the cold and won't appear until the threat of frost is long gone. These plants take many forms, and vary in how long they persist. Some stick around for the remainder of the growing season, while others soon go out of season. Many of these varied warm-weather plants are especially tasty and healthful.

Lady's Thumb
(*Persicaria maculosa*)

Family: Polygonaceae, the smartweed or buckwheat family
Other names: Redleg, persicaria, Redshank, spotted lady's thumb, gambetta, Adam's plaster

This is a very common plant everyone has seen, although most people don't know what it is. An erect, herbaceous, European annual, it grows from 1 to 2½ feet tall in dense stands, arising from both fibrous roots and a shallow taproot.

The smooth, pointed, alternate, lance-shaped leaves grow from 1½ to 4½ inches long, without teeth or lobes. A slightly darkened triangular chevron often spots the leaf's center, as though a lady had imprinted her thumb there.

The stem is divided into regular intervals by swollen, reddish-tinged nodes, as do its relatives. A translucent sheath fringed with very short, upward-pointing hairs grows above each node.

Conspicuous, distinct, upright terminal clusters of small, pink (sometimes white) flowers grow on narrow racemes up to 1½ inches long.

Related smartweeds (*Polygonum* spp.) without the fringe of hairs will make you smarter. Eat them and your mouth will smart so much, you'll become smart enough never to eat them again (one of their common names is smartass!).

This very common plant is in season mainly from mid-spring through mid-fall, although you can sometimes find a few survivors in late fall if the weather has been mild. It grows in full or partial sunlight, in disturbed habitats, roadsides, parks, meadows, stream banks, lawns, and meadows, especially if there's low, wet ground, throughout most of the United States and Canada.

The leaves are edible raw or cooked, and some people like the flowers, although I don't. The leaves are very bland to adults, but sweet to toddlers and very young children, who collect and eat as much as they can. I sometimes use the leaves raw or cooked to tone down recipes with lots of spicy ingredients or to fill up salads, but they're not flavorful enough to be used as a main ingredient.

There's been no nutritional analysis, and the plant isn't used in herbal medicine.

RECIPE

Wild Rice with Wild Veggies

Wild rice is a great grain by itself. With wild greens and seasonings, it's both wilder and better.

3 cups vegetable stock

1 cup wild rice

1 cup lady's thumb or other greens, chopped

¼ cup goutweed or parsley, chopped

¼ cup field garlic or scallions, chopped

4 cloves of garlic, chopped

1 tbsp olive oil

1 tbsp All-Purpose Seasoning (available in health food stores), or other savory spice mix

½ tsp salt, or to taste

¼ tsp black pepper, or to taste

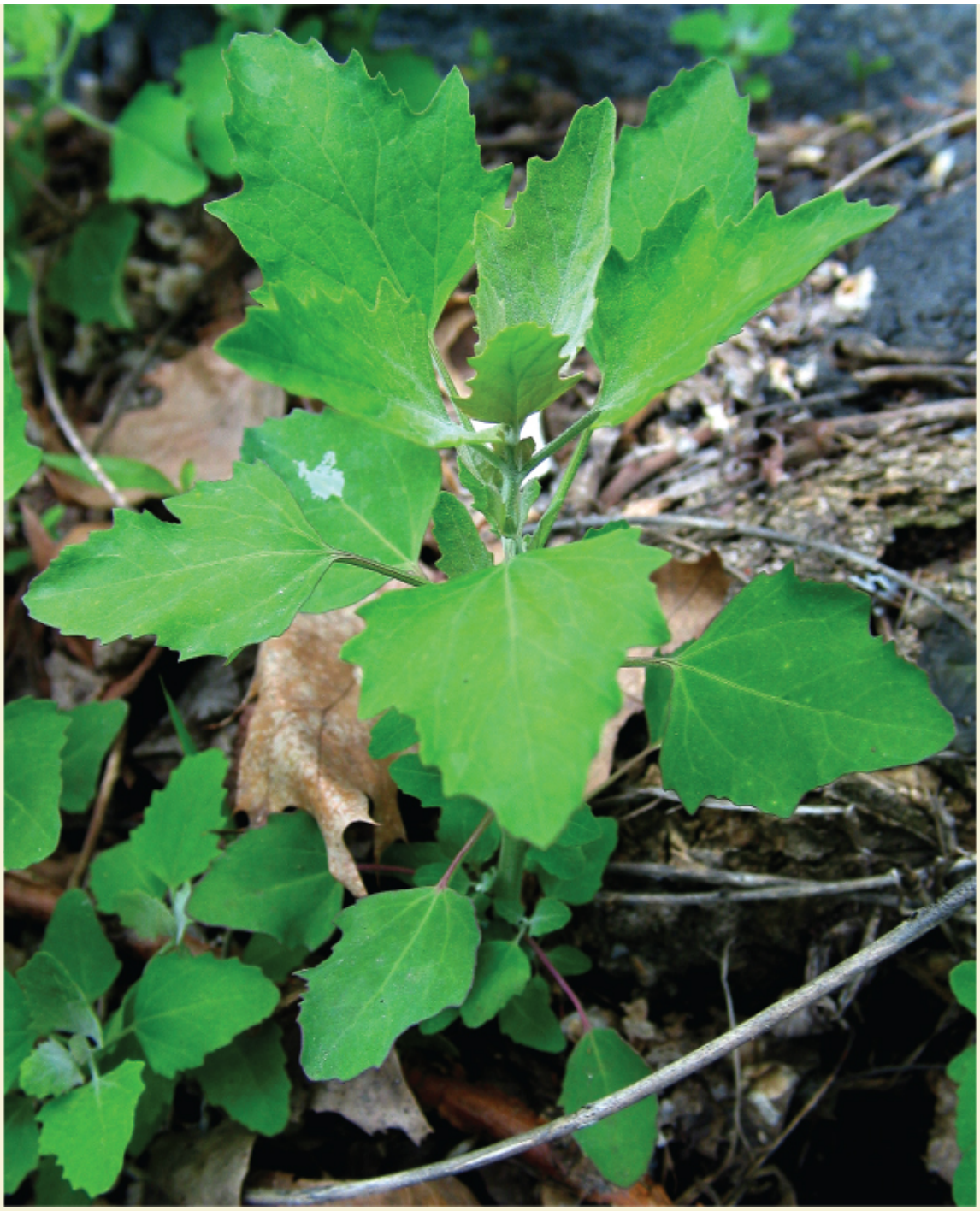
1. Simmer, covered, all ingredients together in a saucepan for 100 minutes or until all the stock has been absorbed.

   Serves: 4–6

   Preparation time: 10 minutes

   Cooking time: 100 minutes

Lamb's Quarters
(*Chenopodium album*)



Family: Amaranthaceae, the amaranth family

Other names: Wild spinach, fat-hen, goosefoot, white goosefoot, Good King Henry, nickel greens, pigweed, dungweed, bathua, allgood, baconweed, dirtweed

This common, odorless annual tastes so good, I eat it any time I find it, even though I'm a vegan! It usually grows from 3 to 5 feet tall, although I've seen it grow up to 10 feet under exceptionally favorable circumstances. It takes the shape of a tree, with lots of branches. Where the branches split from the lined stem (the axil), you'll see a distinctive blotch of purple.

The youngest leaves, near the growing tips of the branches, are linear, but they soon become diamond-shaped with some shallow teeth, leading Carl Linnaeus to give it the generic name *Chenopodium*, goose foot. The undersides of the mature leaves and both surfaces of the youngest leaves are covered with a white, waxy powder, preventing desiccation, and letting the plant grow in sandy, water-poor soil. Thus the specific name *album*, which means white. The leaves grow up to 4 inches long. Tiny, green, inconspicuous, spherical flowers bloom on short, dense spikes in the upper leaf axils and at the plant's tip in the summer. In the fall, they eventually become reddish brown fruits containing thousands of tiny, shiny, black seeds.

People have confused lamb's quarters with epazote (Dysphania ambrosioides), but the latter has elliptical rather than diamond-shaped leaves, they're not whitish underneath, and there's a strong resinous smell. Orache, also edible, (Atriplex patula) looks a little like lamb's quarters, but with triangular, not diamond-shaped leaves, no teeth, and, again, they're not whitish underneath. Lamb's quarters is sometimes called pigweed, but so is amaranth (see p. 259), which is quite a different plant. Refer to scientific names to dispel any ambiguity.

Five days before first writing this very page, I was leading a foraging tour in Central Park and recounting an incident from the week before, when I had shown people lamb's quarters and, for the first time in 33 years, someone began putting deadly white snakeroot *(Ageratina altissima*) into her bag, just because it was growing next to the lambs quarters. The plants are completely different. White snakeroot, which doesn't branch, has much larger, long-stalked, triangular, opposite, regularly toothed leaves that aren't white underneath. While I was recounting this, a woman who must have been paying either too much or too little attention to what I was saying was herself putting white snakeroot, which was again growing right next the lamb's quarters, into her bag! So be very careful about anything that may be growing near your intended dinner, and if you ever teach people to forage yourself, carefully watch in all directions to what everyone's doing at all times!

Lamb's quarters can pick up nitrates from soil contaminated with artificial fertilizers, which will poison you when you eat the plant, so avoid picking on or near fertilized agricultural fields. Some of the leaves are often spotted with red, or have white, dead areas, due to the lamb's quarters' leaf miner (*Chrysoesthia sexguttella*), which is so small that it tunnels between the upper and lower surface of the leaf. Don't eat any of such insect-infested leaves, especially if you're a vegetarian! You may sometimes read that this plant is dangerous because of its oxalic acid content, but it's about as much oxalic acid as spinach, and the two foods are equally threatening!

Lamb's quarters grows in rich soil and sandy soil, in sunny or partially shaded habitats. It's very common in urban parks and in spots where its primary predator fears to attack it: lawn mowers shy away from benches, walls, rocks, or fences. You can find it in disturbed habitats, along roadsides, in fields and agricultural lands, near the seashore, and along the edges of trails and roads. This native plant grows throughout North America, and is native to

Eurasia too. Wherever it originated, a migrating bird, blown off course by a storm, probably transported the tiny seeds across the Atlantic on its muddy feet in prehistoric times.

The shoots first appear in mid-spring and the leaves last until late fall, when they're destroyed by frost. The seeds are best collected from the dying or recently deceased plants in late fall. You can pinch or snip off the young shoots in early spring. After that, strip the leaves off the branches with your fingers. Try to get as many leaves and as few pieces of the stems as possible. I find the flowers unpleasantly bitter. Harvest the seeds the same way as you would for amaranth (see p. 259).

A relative of spinach and beets, lamb's quarters tastes like spinach, only better. Enjoy the raw leaves chopped into salads and sandwiches, or cook them like spinach. They're good sautéed, or in soups, stews, casseroles, grain dishes, stir-fries, bean dishes, and virtually anything else. They cook in 5–10 minutes.

Not in the grass family, the seeds (usually quite labor intensive to collect) are a pseudo-grain, as you use them like grains, simmered in stock to cover, with savory seasonings, for about 15–20 minutes, or until tender.

Not used in herbal medicine, the leaves are an excellent source of vitamin A, calcium, potassium, and iron, preventing or treating deficiencies in these nutrients. The leaves also supply some thiamin, riboflavin, and niacin. The seeds contain protein, calcium, phosphorus, potassium, and niacin.

RECIPE

Creamed Lamb's Quarters

Here's my version of a traditional American spinach recipe, using lamb's quarters instead of spinach, and further transformed by vegan alternatives supplanting the cream. After I sketched out the recipe on an index card, it sat on top of my refrigerator for 2 years before I got around to trying it. I'd really kick myself for this if I could. It became one of my favorite methods of preparing a large variety of wild greens. Serve it over pasta or on toast, using the liquid as a sauce.

6 cups lamb's quarters, chopped

6 tbsp silken tofu

6 tbsp water

6 tbsp corn, coconut, or flaxseed oil, or vegan butter substitute

¼ cup lecithin granules (available in health food stores)

1 tbsp arrowroot

⅜ tsp liquid stevia

8 cloves of garlic, peeled and uncut

½ tbsp salt

½ tsp black pepper, ground, or to taste

½ tsp nutmeg, ground

1. Purée the water, tofu, oil, lecithin granules, and stevia in a blender.
2. Combine it with the remaining ingredients in a saucepan, cover, and cook over low for heat for 10–15 minutes or until the greens are just wilted.
3. Remove the garlic, slice it, and return it to the dish.

Serves: 4–6

Preparation time: 10 minutes

Cooking time: 15 minutes

Common Cattail
(*Typha latifolia*)

Family: Typhaceae, the cattail family
Other names: Broad-leaf cattail, cat-o'-nine-tails, bullrush

This is a favorite of mine and other wild food enthusiasts. It's common, easy to recognize, and very tasty, and you can use various parts of the plant. Cattails grow in dense colonies in marshes—sunny wetlands with grasslike plants. The erect, sword-shaped leaves—"always basal," arising from the base of the plant, not from a stem—grow from 3 to 10 feet tall and ⅓–¾ inch wide, tapering toward the top. From twelve to sixteen of them grow on each shoot. The leaves have parallel veins and look spongy when cut cross section. A clear, slimy liquid oozes out from between the leaves, and it makes an excellent hand lotion. Branching rhizomes produce the aboveground parts. These stout subterranean stems usually grow ¼–1 inch across, but about 3–4 inches under mud or sand, and up to 27 inches long. Cylindrical flowers grow at the top of a tapering, upright, leafless stem, ¼–¾ inch wide, that emerges from the center of the leaves. Male and female flowers grow on different parts of an unjointed, terminal spike, 6 inches tall and 1 inch across, with the male, which will eventually shed pollen, above the female. The flowers start off green in late spring, but the male soon becomes coated with golden pollen. After the pollen is gone, the male flower shrivels to the size of a toothpick. The female flower turns brown in the summer, then gets coated with distinctive, fluffy, white seeds in the fall. Some of the seed heads persist into early spring, very useful for distinguishing the cattail stand from other wetland plants at a glance.

You can use the similar narrow-leaf cattail (*Typha angustifolia*) the same as the common cattail. This smaller species has a gap between the male and female flower spikes. It's tasty too, but provides there's less food. However, both plants are common enough that you should be able to find the larger common cattail easily.

People often confuse cattails with other wetland plants with sword-like leaves, but without bothering to find out about the cattail's features. The common reed (*Phragmites australis*) has alternate, sword-like leaves arising from a tall, upright stem, plus a plum-like flower and seed head, completely unlike the cattail's cigar-shaped one. There's a small amount of bad-tasting food inside the stem in early spring, if you peel long enough. Young cattail shoots look a little like poisonous daffodil (*Narcissus pseudonarcissus*) and iris (*Iris* spp.) shoots, which have similar leaves, but they don't have the cattail

shoot's rod-like shape or its tender, white, inner core. Cattail stands also retain at least a few left-over seed heads from the previous year, and neither of these poisonous plants grows more than a few feet tall. Cattails get much taller by mid-spring.

Cattails are easiest to harvest after periods of dry weather, when there's less mud and the plants are more accessible. Collect the shoots in mid- and late spring. You get much more with less effort then, when the shoots are much larger than in early spring, when they first appear. Use only those shoots that haven't developed the stem, or the shoots will be woody all the way through.

Before you pull out a cattail, look around to make sure there are no animal rights activists watching! Then spread a few leaves away from the larger shoots with both hands, grab the inner part, then pull out the central part of the shoot. Peel away the tough outer leaves from the top down, until you're left with a white core tender enough to pinch through with your thumbnail (the rule of thumb!). You can also do this at home. Remove the protective sheath (if it's still present) from the immature green flower heads, and clip off the male flower head with shears or with a knife. The female flower head retains almost no food and isn't worth collecting. Shake the mature flower heads, which are covered with golden pollen, into a paper bag, going from one to another. You'll get the most pollen when there hasn't been much wind for a few days, since the wind blows the pollen away. You can dig up the rhizomes in fall and early spring, or in the winter (if the ground isn't frozen), but this is very hard, messy work, and you get very little food for your effort compared to the other parts.

The peeled shoots are crisp and crunchy, with a flavor like cucumbers. Add raw shoots to salads and sandwiches, cook them using any method whatsoever from stir-fries to soups, or use as a substitute for zucchini. They're incredibly versatile, and there's lots of food in the shoots once they get large. They cook in 10–15 minutes. Cook the green male flower heads like corn on the cob (a distant relative). You can steam them, bake them with seasoned oil, or simmer them for 15–20 minutes. They're dryer than corn, and this makes them superb served with a sauce—another demonstration of the culinary principle of combining contrasts, as in the familiar sweet-and-sour dishes. You can also store the green male flower heads in a paper bag at room temperature for a week or two. They'll mature, and you'll get the pollen you may have missed if the wind blew it away. Sift the pollen to get rid of plant debris, and use the pollen like flour. It doesn't make baked goods rise, so use it with flour that does rise if necessary. It tastes great, a little like sweet cornmeal, and it's excellent in pancakes, waffles, and muffins.

If you've managed to dig up the rhizomes, hose off all the mud or clean it in a sink (which may get clogged). You can then chew on the fibers and swallow the starch, or rub the starch off the fibers with your fingers in a bowl of water. Let the starch settle and pour off the water. Two hours of work yielded enough starch to thicken a soup to serve six when I tried this, although other foragers have reported better results, possibly with rhizomes that contained much more food than the ones I find around NY. Alternatively, you can dehydrate the cleaned rhizomes, pound them with a mallet, and sift out the debris to obtain the starch, again, this too labor intensive for me. The lateral shoots growing on the rhizomes during the cold-weather seasons taste like the shoots, but they're small and muddy, far inferior to the larger shoots that grow when the weather becomes warm. Nevertheless, some foragers love them.

Cattail shoots are good sources of vitamins K and B6, as well as the minerals iron, phosphorus, calcium, sodium, magnesium, potassium and manganese, while the immature and mature flower heads, and the pollen, provide essential fatty acids, calories (highly sought-after by wilderness survival enthusiasts), and protein—all rare in wild plants.

In addition to its use as a hand lotion, the slime between the leaves has been used as an antiseptic for cuts and as a dental anesthetic, but this hasn't been tested. The rhizomes have been pounded into a poultice and applied to skin sores, cuts, wounds, burns, stings, and bruises. The pollen has been used externally and internally for bleeding, but I'd have to see convincing evidence of this plant's effectiveness as a medicine before I'd use it.

RECIPE

Cataroni and Cheese

Here's a vegan variation of macaroni and cheese, enhanced with cattail shoots. It's very easy to make and very good.

3 cups whole-grain macaroni

3 cups cattail shoots or zucchini, sliced

2½ cups almond milk or other nondairy milk

¾ cup vegan mozzarella cheese, grated

½ tbsp Vege-Sal or seasoned salt, or 1 tsp salt, or to taste

½ tsp sage, ground

½ tsp marjoram, ground

½ tsp savory, ground

¼ tsp black pepper, ground

1. Mix all ingredients together and cook for 30–40 minutes in a slow cooker, or simmer, covered, in a saucepan for 10–15 minutes or until the macaroni is al dente, stirring often.

   Serves: 4–6

   Preparation time: 10 minutes

   Cooking time: 15 or 40 minutes

RECIPE

Baked Cattail Flower Heads

You can't get much simpler than this one, only two ingredients, but a perfect combination. Cattail flower heads are flavorful but dry, so Sweet Herb Spread is just right for them.

24 green (immature) cattail flower heads

2 tbsp Sweet Herb Spread, or as needed

1. Toss the cattail flower heads in the Sweet Herb Spread.
2. Bake on a rack over a cookie sheet covered with a nonstick baking sheet, or over an oiled cookie sheet, for 10–15 minutes or until lightly browned. Be careful not to let the cattails burn.

   Serves: 6

   Preparation/cooking time: 20 minutes

RECIPE

Sweet Herb Spread

Sweet herbs make this simple spread or dip especially flavorful.

2 tsp allspice, ground

4 tsp fresh ginger, store-bought or wild

½ tsp dried (or ½ tbsp fresh) sassafras cambium or cinnamon, ground

2 tbsp dried (or 6 tbsp fresh) mint leaves, any species

The scrapings of the inside of 2 inches of a vanilla bean, or 2 tsp vanilla extract

2 cups white miso

1 cup sesame oil

½ cup pine nuts or lecithin granules

2 tbsp freshly grated lemon or lime rind

1. Finely chop the ginger and pine nuts in a food processor.
2. Add the remaining ingredients and process to form a paste.

   Makes 2-⅔ cup

   Preparation time: 5 minutes

Sea Rocket
(*Cakile edentula*)

Family: Brassicaceae or Cruciferae, the mustard, crucifer, or cabbage family

Other name: American searocket

Sometimes as wide as it's tall, this native annual mustard has an erect to prostrate, zigzag, branching, succulent stem, ½–20 inches tall.

The oval to spoon-shaped, alternate leaves grow 1–3 inches long and ¼–1 inch across. They're widest along the upper third, making them look wedge-shaped. They're also distinctly fleshy, as well as smooth and wavy-toothed. The lower leaves are larger than the upper ones.

From summer to fall, at the ends of irregular terminal racemes 2–10 inches long, the flowers bloom. Small and short, the flowers have four petals configured like a cross, as do all the related mustards. The petals are purple-pink to lavender, or sometimes white.

The two-parted seedpods grow beneath the flowers. They're ½–¾ inch long and narrowed in the middle. The upper part is beaked and bulbous, while the cone-shaped base is smaller and more narrow. The pod looks like the cone of a rocket ship, even though the word “rocket” means mustard. The pod's upper part, which contains one seed, detaches and often spreads via the ocean, while the lower segment stays near the parent plant and contains either one seed or none.

Native to the East Coast, the sea rocket also grows along the coast of the western United States, the Great Lakes, and Canada. Look for it in full sunlight, close to open water, on sandy or gravelly beaches, and on dunes.

Collect the leaves from mid-spring to early fall, and the tender young pods and flowers from mid to late summer. Strip off the leaves; the tender, immature seedpods; and the young, tender tops of the stems with your fingers.

The leaves, flowers, and the young seedpods (which get tough when they mature) continuously become more spicy, eventually tasting like wasabi and horseradish. They cook in about 10 minutes. They're great raw or cooked in any dish that needs some fire. You can even pickle the young seedpods or use them to make prepared mustard, as in the recipe below.

This plant hasn't been analyzed for nutrients, but all mustards are nutritive and healthful. Although not commonly used by herbalists, it may have

properties similar to horseradish.

RECIPE

Sea Mustard

Here's a hot prepared mustard similar to commercial mustard, but much better, thanks to sea rocket seedpods. If you like your mustard extra spicy, skip the cooking.

⅓ cup young sea rocket seedpods or ground yellow mustard seeds

¼ cup white wine vinegar

½ cup water

1 large clove of garlic, crushed

½ tsp turmeric

½ tsp salt

1. Purée all ingredients in a food processor.
2. Bring this to a boil over medium heat in a heavy saucepan, stirring constantly.
3. Reduce the heat to low and simmer, uncovered, for 5 minutes, stirring often.
4. Add more water if necessary to achieve your desired consistency.

Yields: 1 cup

Preparation/cooking time: 10 minutes

Asiatic Dayflower
(*Commelina communis*)

Family: Commelinaceae, the dayflower or the spiderwort family

Other name: Blue Dayflower, Dew Herb, Duckfoot Herb, Mouse Ears, Mouse Flower, Monsoon Flower

This Asian species is the first edible wild green I ever ate. When I was beginning to teach myself foraging, my then-girlfriend and I ventured into a local woodland in early spring, field guide in hand, passing dozens of wild foods I was yet to discover. All we could identify was wild lettuce (Lactuca spp.), but because it didn't have flowers, we weren't sure, and neither of us could convince the other to try it first. That plant is still growing there to this day!

Our next attempt was in mid-spring. Because there aren't many plant with two blue petals, I was able to make a positive ID, enjoyed eating the plant on the spot, and later on, making recipes with it.

This hairless plant usually grows no more than 1 foot tall, with simple, smooth-edged, lance-shaped, pointed, alternate leaves, 3–5 inches long, that look a little like grass leaves. They lack leafstalks, but wrap their bases wrap around the stem instead, forming a distinct sheath.

The flower has two sky-blue petals about ½ inch long, growing above a third, tiny, withered-looking, inconspicuous, translucent-white petal. Therefore, Carl Linnaeus, the great eighteenth-century scientist who established the biological classification system we still use today and didn't lack a sense of humor, called the genus that includes this plant *Commelina*: In his day, there was a family by the name of Commelijn that had three sons. Two became famous, a botanist and an author. They're represented by the two bright blue petals. The third son was a ne'er-do-well and is represented by the puny, inconspicuous, lower petal. His business ventures failed, he could never get out of debt, the woman he loved married someone else, and then he died young.

Each flower on the plant lives but one day, hence the plant's common name. However, the name of the hapless son and his more illustrious brothers live on indefinitely in the form of this plant and its relatives!

Two short, elliptical sepals grow beneath the flowers, often enclosing two small, pale yellow-green seeds, which look and taste like tiny peas. There are no poisonous look-alikes, but deer tongue grass (*Dichanthelium clandestinum*) has similar leaves, although the flowers and seeds are different. Unlike Asiatic dayflower leaves, it's densely hairy, so you can tell them apart at a glance if you know of that distinction.

Spiderwort (*Tradescantia virginiana*), with edible flowers, looks a little like Asiatic dayflower, but this relative is much larger, with much longer leaves, and you usually find it cultivated in gardens. Happily, all three petals are large and blue. Perhaps it represents a parallel universe, where the third brother had a successful life too!

Asiatic dayflowers are in season from mid-spring to mid-fall. They grow in cultivated and disturbed areas, in full sunlight and partial shade. You can find them on road- and trailsides, in openings in the woods, on lawns, and in parks.

Harvest fresh-looking plants without brown parts. Strip off the leaves, any tender parts of the stems, flowers, and seeds with your fingers. Adults usually find the seeds too small to be worthwhile, whereas kids love seeking them out and eating them.

This plant tastes like string beans. It's excellent raw in salads and sandwiches, and it's amazingly good in soups. Use it in any dish that calls for

cooked greens, especially where the flavor of string beans would be welcome. It cooks in about 10 minutes.

There's been no nutritional analysis of this plant, but extracts have shown substances with biological activity: It contains *p*-hydroxycinnamic acid (which has antibacterial activity) and D-mannitol (which is good for coughs). A study using dog kidney cells and live mice found the plant to be protective against the H1N1 influenza A virus.

This parallels some of its uses in traditional Chinese medicine. An infusion of the aboveground parts of the plant is taken internally for fever and diarrhea, and gargled for sore throat and tonsillitis. It's used externally for bleeding, and it's considered to be a diuretic and a detoxifier.

RECIPE

Dayflower Fried Rice

Asiatic dayflowers lend just the right touch along with Chinese five-spice seasoning to turn leftover rice into a fantastic dish.

1½ tbsp sesame oil

1½ tbsp dark (toasted) sesame oil

2½ cups leftover brown rice

1 red onion, sliced

2½ cups Asiatic dayflower leaves, chopped

2 cloves of garlic, chopped

1 tbsp Wild Five-Spice Seasoning (see below) or store-bought five-spice seasoning, or to taste

2 tsp tamari soy sauce

1. Sauté the onions and Asiatic dayflower leaves in the sesame oils for 10 minutes.
2. Add the garlic and five-spice seasoning, and sauté another 5 minutes.
3. Add the rice and sauté another 5 minutes.
4. Stir in the tamari soy sauce.

Serves: 4–6

Preparation/cooking time: 20 minutes

RECIPE

Wild Five-Spice Seasoning

This is a traditional Chinese seasoning combination with a wild touch, great in any East Asian dish.

2 tsp dried sassafras (see p. 2) cambium or 2 tbsp cinnamon

2 tbsp dried wild ginger (see p. 306) or powdered, store-bought ginger

2 tbsp star anise

2 tbsp fennel seeds

2 tbsp cloves

¼ tsp black pepper

1. Grind all ingredients together in a spice grinder.

   Yields: 10 tbsp

   Preparation time: 5 minutes

Quickweed
(*Galinsoga parviflora*)

Family: Asteraceae or Compositeae, the aster, daisy, composite, or sunflower family

Other names: Galinsoga, four-pointed galinsoga, gallant soldiers, soldiers of the queen, shaggy soldier, peruvian daisy, potato weed, guascas

This colonial annual grows from 6 inches to 2 feet tall, emerging from fibrous roots. It's a pliable, slender, erect, ridged, branching stems, and the whole plant is covered with soft hairs.

The lance-shaped, oval to triangular, coarsely toothed, opposite leaves are medium to dark green. Densely hairy above, they grow about 3 inches long and 2 inches wide. The leafstalks of the larger leaves reach 1½ inches long. The leaves are smaller and stalkless toward the stem's apex.

Quickweed blooms from early summer to late fall. The flowers grow both in sparse terminal clusters and in clusters coming from the leaf axils. Because the flowers are tiny, only ¼– ⅖ inch wide, the plant's species name is *parviflora*, which means small flower.

Each composite flower consists of four or five white, three-toothed, ray flowers, surrounding many tiny, yellow disk flowers. About two outer and several inner green, oval, scale-like bracts surround each flower. The seeds are achenes that look like miniature sunflower seeds, smaller than those of the dandelion, and they disperse with the wind.

Quickweed comes from Central and South America, but has spread throughout most of the United States, parts of Canada, and much of the rest of the world. Look for it in sunny and partially shaded areas with moist soil; in gardens, cultivated areas, parks, and lowland fields; on disturbed soil; and in cracks in the pavement. It's in season from mid-spring through late fall. Strip off the leaves, flowers, and any tender parts of the stems with your fingers. Although the plant tastes like artichokes and it's edible raw or cooked, I find the hairy texture unpleasant and wrote it off as marginally edible for a quarter of a century, until the solution, obvious in hindsight, struck me. Cooked and puréed in a blender into a cream soup or cream sauce, it's delicious, and the hairs are gone! You can also dry the plant, grind it into a powder in a blender, and add it to any vegetable dish that would benefit from the flavor of artichoke. Adding the raw leaves to pesto, where everything is ground together, is also good.

Quickweed contributes some protein and calories, plus beta-carotene, vitamins B1 (thiamin), B2 (riboflavin), B3 (niacin), and C, as well as the minerals calcium, magnesium, potassium, phosphorus, and iron.

Quickweed juice is great for wounds, speeding blood coagulation, and possibly hastening healing. It's good for nettle stings too. Quickweed contains ACE inhibitors that are used in to lower high blood pressure. It also provides phenolic compounds that inhibit high blood pressure in type 2 diabetes. It definitely deserves further testing.

RECIPE

Quick Dip

Quickweed adds an artichoke touch to this olive-flavored dip and spread.

1⅔ cups silken tofu, drained
1 cup slow-sodium green olives, pitted
2 tbsp lecithin granules
2 tbsp olive oil
½ tbsp vegan grated Parmesan cheese
½ tbsp nutritional yeast
1 tsp lemon juice
1 tsp dried, powdered quickweed
1 tsp oregano, ground
½ tsp sage, ground
½ tsp rosemary, ground
½ tsp paprika

Purée all ingredients in a food processor, and do it quickly!

Yields: 2¼ cups

Preparation time: 5 minutes (see, it is quick!)

Purslane
(*Portulaca oleracea*)

Family: Portulacaceae, the purslane family
Other names: Pussley, verdolaga, pigweed, little hogweed

This hated garden "weed" becomes a favorite food of nearly everyone who tries it. It's a smooth, sprawling, annual with a small taproot that produces many fibrous secondary roots. A thick, succulent, purple-red stem grows 4–10 inches long and up to 6 inches tall. Its fleshy, opposite (sometimes alternate), stalkless, toothless, paddle-shaped leaves grow ½–2 inches long.

The tiny, yellow flowers grow tucked in the leaf axils. Only ⅕ inch wide, they've five petals and two sepals. They bloom from mid to late summer, opening only on sunny mornings. They develop into ovoid fruit capsules up to ¼ inch long in late summer. These split in half and drop tiny, hard, roundish, black seeds the size of poppy seeds.

Purslane grows in sunny habitats; on very poor soil; on lawns; in gardens, fields, and meadows; and in cracks in the sidewalk. This European invader

grows throughout most of North America, and is available from late spring to early autumn.

Break or cut off the stems and bag them with the leaves. Discard any rare woody stems. The seeds are too small to be collected in any meaningful manner.

This is a first-rate vegetable any way you prepare it. With a sweet sour flavor, crunchy texture, and a slight thickening effect, you'll enjoy it raw in salads and sandwiches or cooked by any method. It takes 10–15 minutes to cook.

If there ever was a superfood, purslane it's, providing vitamins A, C, and E; some B-vitamins and carotenoids; the minerals magnesium, calcium, potassium, and iron; and the antioxidant glutathione. It also has more omega-3 fatty acids, especially α-linolenic acid, than any other plant. It's even an

excellent source of eicosapentaenoic acid. In addition, it provides reddish betacyanins and the yellow betaxanthins, both with antimutagenic effects, so they may reduce the risk of cancer.

Traditional Chinese herbalists treat infections, urogenital bleeding, and dysentery with purslane. The fresh herb has been applied topically to skin sores, insect stings, and snake bites, although none of these uses have been tested scientifically.

Eating purslane greatly reduces the symptoms of oral lichen planus, an autoimmune disease of unknown cause that effects the mouth's mucus membranes.

RECIPE

Purslane Lover's Salad

This simple salad uses only a few ingredients, but the balance works out perfectly. Serve with Garlic Mustard Salad Dressing (see p. 16)

½ red onion, chopped

4 cups purslane, chopped

4 cups romaine lettuce, chopped

1 cup roasted walnuts, chopped

1 cup grapes, chopped

1. Soak the onion in water for 15 minute to smooth out its bite, drain, and pat dry with a clean towel or with paper towels.
2. Toss with all the remaining ingredients.

Serves: 6

Preparation time: 15 minutes

Fruits and Berries

Successively ripening from when summer is about to come until just before winter, the parade of wild fruits and berries you can pick has to be tasted to be believed. Most of these fruits have short seasons, but this is good, as it prevents you from losing your sanity with too much delicious food to gather and eat.

Mulberries
(*Morus* spp.)

Family: Moraceae, the mulberry or fig family

This is one of the first wild foods I didn't know about. I thought there was a "blackberry tree" next to my apartment building, before I even thought of foraging, and I ate the delicious berries from the branches. Fortunately, I didn't

poison myself. Later, when I began to teach myself foraging, I found out what it really was.

Mulberries comprise a group of two closely related trees that grow wild in New York, and they hybridize and create a third variant. The native red mulberry (*Morus rubra*) has reddish-brown bark and reaches up to 65 feet in height, while the white mulberry (*M. alba*) comes from Asia and has lighter, rough, ochre-gray bark and spreading branches. It reaches just 40 feet. All mulberry trees have distinct vertical cracks or furrows in the bark and sporadic orange-brown streaks between the cracks. They also exude a white, milky sap when any part is injured. The roughly oval, toothed, alternate, long-stalked leaves reach 2–8 inches in length. They can be unlobed, mitten-shaped, or three-lobed. They're shiny, and the red mulberry leaves feel rough underneath, while the white mulberry leaves underside feels smooth. Wind-pollinated flowers appear in mid-spring, while the leaves are still developing. The tiny, yellow-white, male and female flowers hang on separate, small, slender spikes. The longer male cluster is ½ inch long, while the rounder female cluster is ¼ inch long. The female flowers develop into spherical or cylindrical multiple fruits, ½–1½ inches long in total, each conglomeration suspended from a short, slender, fruit stalk. Each individual unit in the cluster has its own seed. The fruit is green at first. White mulberries become soft, sticky, and white. Red mulberries, also sticky when ripe, progress from white to pink, then reddish, purple, and almost black. Hybrids of white and red trees have intermediate characteristics, and wind up soft, sticky, and pink.

Mulberry trees are common on residential streets; in backyards, vacant lots, disturbed habitats, parks, and fields; along edges of woods; in open woods; and near lakes, ponds, and rivers. The red mulberry grows throughout most of eastern North America, while the white mulberry ranges throughout most of the continent. Other mulberry species (*Morus* spp.) grow in other parts of the country, hybridizing where ranges overlap, but these are all edible, and there are no poisonous look-alikes. Blackberries (see p. 181) have fruit that looks like red mulberries', but they grow on thorny canes, not trees, and there's no seed stalk. Sassafras (see p. 2) has three kinds of leaves, but they're smooth, not toothed, toothed, and the fruit is completely different.

Immature mulberry leaves are edible in early spring. The berries come into season in late spring and are usually gone in early summer, although on very rare occasions, individual trees may produce ripe berries in the summer, or even autumn.

Harvest after periods of dry weather or the day before rain, which washes away much of the flavor, is predicted. You can pick the berries one at a time from low-hanging branches and put them in a container, but the best way to harvest is by placing a 9 × 11 inch, medium-gauge drop cloth under the branches of trees you've chosen with the best-tasting berries and plenty of branches you can reach. If it's windy, place rocks or other weights on the corners of the drop cloth to keep it in place. Shake the branches and it'll rain mulberries. Move the drop cloth under successive branches until you've covered them all. Sort out the coarse debris and transfer the delicate berries into food containers. At home, place the berries in a colander and put this in a bowl with a rim lower than that of the colander. Run tepid water through the colander to rinse the berries, which can't overflow. Let the berries drain for a few minutes, then transfer them to a tray and sort out any remaining debris and any unripe fruit. After a modest amount of work, you'll have a huge amount of very tasty fruit.

Store the mulberries in food containers, refrigerated, for a few days. They're perishable, so eat them or cook them soon. Otherwise, you can dehydrate them in a food dehydrator, or freeze them on trays or cookie sheets before packing them into food containers. That way, they won't stick together and you can defrost as many as you want, instead of the whole container.

Mulberries taste sweet, a little like figs, to which they're related, and they're juicy. Since they're not tart, they benefit from the addition of lemon juice, lime juice, or sumac (see p. 213) concentrate. Use them like other berries, raw in fruit salads; baked into pies, muffins, cakes, or pancakes; added to ice cream; turned into jam; or in cobblers, compotes, fruit soups, or beverages. You can also eat the immature leaves in early spring, boiled for 20 minutes. Discard the somewhat toxic water, which some people think is hallucinogenic, but causes such bad headaches no one tries it or the immature berries, with the same reputed properties, twice. The mature raw leaves of the white mulberry tree are

edible too, and can comprise 100 percent of your diet, but only if you're a silkworm!

Mulberries are a good source of anthocyanins, vitamin C, and the minerals calcium, potassium, magnesium, iron, and zinc. They even contain some protein. Exotic, imported, dried mulberries from the Himalayas are touted as a superfood, because something from far away commands higher prices, but the common species growing in the United States are just as healthful. The berries aren't used medicinally, but the leaves of the white mulberry contain a phytoalexin substance called chalcomoracin, which shows antibacterial activity against *Staphylococcus aureus* (a potentially deadly antibiotic-resistant bacteria). Research to turn this into a medicine is underway. 1-Deoxynojirimycin, also present in the leaves, might inhibit sugar digestion, so sugar is excreted rather than absorbed. It's being researched for use in blunting the blood sugar spike characteristic of diabetes. Herbalists have used a decoction of the roots or cambium for weakness, difficult urination, dysentery, and tapeworms; and the sap has been applied externally to treat ringworm, but these uses haven't been tested scientifically.

RECIPE

Mulberry Crisp

Like other crisps, this one has a fruit layer baked under a rolled grain and nut layer. However, the mulberries, the right seasonings, and the correct proportions make this one special. Serve hot or cold, topped with Vegan Whipped Creme.

Fruit Layer

8 cups red or other mulberries

¼ cup arrowroot or kudzu

2 tsp liquid stevia

1½ tbsp lemon juice

½ tsp powdered ginger

¼ tsp ginger

Grain Layer

4 cups rolled oats

1 cup raw cashews or other nuts, chopped

¼ cup peanut oil

1 tbsp poppy seeds

1 tsp cinnamon, ground

1 tsp liquid stevia

¼ tsp salt

1. Mix together the fruit layer and transfer to an oiled baking dish.
2. Mix together the grain layer and spread this on top of the fruit layer.
3. Bake for 45 minutes or until lightly browned on top in a preheated 375°F oven.

Serves: 6–8

Preparation time: 20 minutes

Cooking time: 45 minutes

RECIPE

Vegan Whipped Creme

Use this vegan topping on sweet dishes, just like the dairy version. The silken tofu makes it creamy, the dates and stevia provide sweetness, and the sumac supplies a touch of tartness.

2¼ cups of silken tofu, well-drained

½ cup Medjool (soft) dates

2 tbsp lecithin granules

2 tbsp grape seed oil

1 tbsp sumac concentrate or lemon juice

The scrapings of the inside of 2 inches of vanilla bean, or 2 tsp vanilla extract

1 tsp liquid stevia

¼ tsp butterscotch extract or caramel extract

¼ tsp salt

Puree all ingredients together in a food processor until smooth.

Makes 2-½ cups

Preparation time: 10 minutes

Juneberry
(*Amelanchier* spp.)

Family: Rosaceae, the rose family

Other names: Serviceberry, sarvisberry, shadbush, shadblow, shadwood, saskatoon, currant-tree sugarplum, chuckley pear, wild-plum

This group consists of six to thirty-three mostly native species of multistemmed shrubs or small trees, usually 20 feet tall, with a spread of around 10 feet, but sometimes up to 60 feet in height. Hybridization leaves the exact number unknown. They all have smooth to slightly furrowed, tight, ash-gray to blackish bark, patterned with wavy, dark gray to reddish, vertical stripes.

The finely toothed, oval to elliptical, alternate leaves grow 1–2 inches long and half as wide, with a pointed leaf tip and a rounded to slightly heart-shaped base, and the underside is a much lighter green (and often slightly downy) than the upper surface.

The five-petaled, radially symmetrical, white flowers bloom in early spring, before the leaves are fully formed. Around ¾ inch across, the flower has five

sepals under the petals. The many protruding stamens make the flower look like the related apple tree's (see p. 219) blossoms, although unlike apples, four to twenty juneberry flowers grow on long, sparse racemes, around 2 inches long.

The spherical berries, ¼–⅓ inch in diameter, go from green to red to blue, although one cultivated English species has red berries. With a five-parted, frilled crown, remnants of the sepals, at the tip, they resemble unrelated blueberries and huckleberries (see p. 186), but those grow on smaller bushes with different flowers, leaves, and bark, and the fruit doesn't grow on the loose racemes like juneberries. Also, unlike the former, juneberries contain several soft, irregularly ellipsoid seeds that taste like almonds.

No additional species resemble juneberries. Some shrubs have blue berries, but they lack the distinctive crown.

You can find juneberries throughout most of the United States and Canada. They grow in full sunlight or partial shade. The various species grow wild in moist and somewhat dry soil, along streams and lakes, on mountains, in thickets, in clearings, and in the vicinity of the seashore. Because of the early blooming showy flowers, landscapers plant them in parks, around shopping malls, on residential streets, and in garden apartment complexes.

The fruit usually ripens in late spring and drops by early summer, although the English species' red fruit ripens in autumn. Pull off the berries with your fingers, eat until you're full, then put additional berries in a container attached to your clothing. A saw-edged scoop also works.

These berries are dangerous. Although there are rare species with bad-tasting fruit, the vast majority are so tasty, when you eat them, you can die of happiness! They're sweet, with the flavor of apples, blueberries, and almonds.

Use them like blueberries, raw or cooked, in any fruit dessert whatsoever. They cook in 5–10 minutes.

The Iroquois used a decoction of the roots and cambium to prevent miscarriage and to help recovery after childbirth, and both the Iroquois and traditional Chinese herbalists used it to expel worms, something that certainly merits scientific scrutiny.

RECIPE

Banana Juneberry Ice Cream

My then-seven-year-old daughter, Violet, thought up this combination of fruits, based on an ice cream protocol I'd already developed. We made it together, and it worked perfectly.

3½ cups nondairy milk

1 tbsp arrowroot or kudzu

1 tsp agar powder or 1 tbsp agar flakes

2 bananas

½ cup raw pine nuts or cashews

¼ cup lecithin granules

¼ cup grape seed oil

¼ cup vegetable glycerin or other liquid sweetener

1 tbsp clear liquid stevia

¼ tsp salt

1½ cup juneberries or blueberries

1. Stir the agar and arrowroot into the nondairy milk and bring to a boil over medium heat, stirring constantly. Reduce the heat to low and simmer, uncovered, for 5 minutes or until the agar is dissolved, stirring often.
2. Combine with the remaining ingredients, except the berries, in a blender and purée.
3. Freeze in an ice cream machine according to the manufacturer's directions.
4. Fold in the berries.

Serves: 6

Preparation time: 20 minutes

Freezing time: 2 hours (varies)

Common Strawberry (*Fragaria virginiana*)

Family: Rosaceae, the rose family

Other names: Virginia strawberry, wild strawberry

This trailing, somewhat hairy, colonial perennial arises from slender, horizontal, reddish-tinged runners up to 2 feet long and short, scaly rhizomes.

A three-parted, palmate-compound leaf grows above a long, finely hairy leafstalk about 6 inches long. Pale green underneath, the wedge-shaped leaflets grow 1–3 inches long and about 1½ inches wide, with coarse, sharp, even teeth, and very short leafstalks.

A new, softly hairy, leafless stem 3–4 inches long emerges from the ground in mid-spring, with terminal clusters of 2–15 five-petaled, radially

symmetrical, odorless flowers, typical of the rose family, ½–1 inch across.

Familiar red strawberries ½–¾ inch across ripen about five weeks later, toward the end of spring. They're ovate versions of store-bought strawberries, with seeds partially sunken into the flesh and ten tiny green sepals at the base of the fruit.

Although technically a different species, the woodland strawberry (*Fragaria vesca*) is nearly identical to the common strawberry and just as good, although the fruit is larger and more elongated.

Avoid the Indian strawberry (*Duchesnea indica*), which has a small, spherical, red berry, with seeds on the outside. It can be fatal: It looks really good, but when you eat it, it's no flavor whatsoever—as tasteless as my jokes—and you soon die of disappointment!

Common cinquefoil (*Potentilla simplex*) can also kill you. Its leaves look like strawberries', only there are five rather than three, and you die of old age waiting for a strawberry that never appears!

Wild strawberries grow in open, sunny places and partial shade; on moist ground; in dry openings and open woods; along woodland edges; in rocky areas, meadows, and fields; near the seashore; and on hillsides and slopes. The four subspecies grow throughout North America.

The berries ripen at the end of spring or start of summer, although you can use the leaves for tea from spring to fall.

The berries are much tastier, but much smaller than store-bought strawberries, so use them, raw and cooked, as a minor component to any dessert recipe, unless you've enough time to collect them in quantity.

Strawberries supply you with magnesium, potassium, beta-carotene, iron, and malic and citric acids, plus the protein NRF2. This increases antioxidant activity and decreases blood lipids and cholesterol, so eating strawberries may reduce your risk of cardiovascular disease. An infusion of the leaves provides vitamins C and K.

Strawberries are mildly laxative, a good food for mild constipation. They're also supposed to break up calcareous stones from the kidneys, gallbladder, and bladder, although this hasn't been tested.

Strawberry juice is supposed to be good, externally, for oily skin. Crushed strawberries have been used for sunburn too, and strawberry juice does protect skin cells from ultraviolet light, possibly due to the proanthocyanidins they contain.

RECIPE

Almond Strawberry Pudding

Here's a great way to make a sweet, healthful dessert with wild strawberries, as well as any kind of fruit or berry.

4 cups almond milk

¾ cup wild or store-bought strawberries, or other fruit, chopped

3½ tsp agar powder or 3½ tbsp agar flakes

1 tsp liquid stevia

1 inch vanilla bean, scraped, or 1 tsp vanilla extract

¼ tsp almond extract

⅛ tsp amaretto extract (optional)

⅛ tsp salt

½ cup freshly roasted almonds, chopped

1. Simmer, uncovered, all ingredients together (except for the almonds) for 10 minutes or until the agar is dissolved.
2. Place a few drops of the liquid in a metal spoon and place that in a freezer for 5 minutes or until cold. If too thin, add more agar to the pudding and simmer, uncovered, for another 5 minutes or until dissolved. If too thick, stir in more almond milk. Then test again.
3. Chill until set.
4. Serve sprinkled with the almonds.

Serves: 6

Preparation time: 20 minutes

Chill time: 3 hours (varies)

Sweet Cherry
(*Prunus avium*)

Family: Rosaceae, the rose family

Other names: Wild cherry, gean, massard, mazzard

Although this Eurasian tree that people grow in backyards grows from 50 to 70 feet tall, it still managed to escape cultivation and make its way into the wild—quite a feat!

The tree has a symmetrical, conical crown at first, but becomes rounded to irregular in older trees. The shiny, smooth, purplish-brown bark becomes dark silvery-gray and develops fissures as the tree ages. The bark is streaked with whitish, horizontal lines.

The oval, pointed, alternate leaves are shiny and finely toothed, growing from 2¾ to nearly 6 inches long and 1½–2¾ inches wide. They turn orange, pink, or red in the fall.

From two to five small, red glands grow on the leafstalk, which gets from under 1 to 1⅓ inches long. These glands are nectaries, which may feed insects

that protect the tree from herbivores.

The radially symmetrical white flowers, which bloom in early spring, grow in showy clusters of two to six. Growing at the tips of twigs, on flower stalks 1–2 inches long, they're 1–1½ inches across.

Long-stalked cherries, ½–1 inch across, ripen at the end of spring and the beginning of summer. They're smooth and spherical, usually red or black, but sometimes yellow. Several fruit stalks originate from the same place on the twig. Each cherry contains 1 hard stone, ⅓ inch across.

Collect the cherries with your fingers and put them into a container attached to your backpack or clothing, or strung around your neck. Look for smaller trees, growing along woodland edges, that are getting lots of sunlight. Unless there are low branches, most of the cherries on larger trees will be out of reach. About one out of every three years you'll get a really good crop.

Sweet cherries grow in edge habitats, parks, cultivated areas, and woodlands. This fruit is similar to store-bought cherries, but because it grows from seed rather than cloned from cuttings, the genes aren't uniform and the fruit tends to be more sour and smaller than the uniform domestic variety, although the flavor's more intense. Enjoy these cherries raw, or remove the seeds with a cherry pitter, or by cooking them with a sweetener and a thickener, and passing them through a food mill. They're superb in any dessert that calls for fruit. Better, in my opinion, than store-bought cherries.

Cherries provide natural sugars, vitamins C, K, and folate. They're rich in the carotenoids beta-carotene, choline, zeaxanthin, and lutein. They're also a good source of the minerals iron, magnesium, and phosphorus.

In European health spas, people go on cherry “cures,” where they eat nothing but cherries. Recent research shows that short fasts can actually provide benefits, but hasn't addressed this form of fasting yet.

Traditional herbalists use the fruit stalks of cherries as an astringent, a diuretic, and a tonic. They recommend this for cystitis, edema, bronchitis, diarrhea, and anemia, but the decoction contains amygdalin and prunasin,

which could change into cyanide. Small amounts of these natural wannabe medicines have been shown to stimulate respiration, promote digestion, and make people feel well, but their use is controversial, as cyanide can be deadly. It can cause gasping, weakness, excitement, pupil dilation, spasms, convulsions, coma, and respiratory failure.

All parts of the tree contain these substances, even the cherry stones. However, cooking destroys them.

RECIPE

Black Forest Cake

Here's my version of a classic chocolate cake, using whole, unrefined ingredients that tastes even better than the bakery version.

Dry Ingredients

¾ cup + 1 tbsp buckwheat flour
1 cup + 1 tbsp sweet brown rice flour
¾ cup unsweetened cocoa powder
½ cup flaxseeds, ground into ¾ cup meal
1 tsp xanthan gum
½ tsp guar gum
2 tsp cinnamon, ground
1 tsp nutmeg, ground
2 tsp cream of tartar
1 tsp baking soda
¼ tsp cloves, ground

Ingredients to Blend

2 cups soy milk or nut milk
6 tbsp almond oil
¼ cup lecithin granules
6 dates
4 common spicebush berries or ¼ tsp ground allspice
2 tsp vanilla
1 tbsp clear liquid stevia or powered stevia

Cherry Topping

2½ cups pitted wild sweet cherries or commercial cherries
1¼ cups water

1¼ cups cherry juice concentrate

1 tbsp agar

5 tsp arrowroot

1 tsp clear liquid stevia or powdered stevia

1 tsp dried water mint or other mint, ground

½ tsp powdered ginger

⅛ tsp amaretto extract or almond extract

Icing

3 cups silken tofu, drained

¾ cup dates

¼ cup lecithin granules

2 tbsp almond oil

1 tbsp fresh lemon extract

2 tsp vanilla

1 tsp clear liquid stevia or powdered stevia

¼ tsp butterscotch extract or caramel extract

¼ tsp salt

1. Mix together the dry ingredients.
2. Purée the ingredients to blend in a blender.
3. Mix the purée into the dry ingredients. Don't overmix.
4. Transfer to three oiled 9-inch pie tins and bake in a preheated 350°F oven for 30 minutes or until an inserted toothpick emerges dry.
5. Cool on racks.
6. Meanwhile, mix the cherry topping ingredients in a saucepan and bring to a boil over medium heat, stirring constantly. Reduce the heat to low and simmer, uncovered, for 5 minutes, then chill.
7. Purée the icing ingredients in a food processor.
8. Layer the cake, icing, cherry topping, and cake until all ingredients are used up.

Serves: 8–10

Preparation time: 45 minutes

Cooking time: 30 minutes

Black Raspberry
(*Rubus occidentalis*)

Family: Rosaceae, the rose family

Other names: Wild black raspberry, black caps, black cap raspberry, thimbleberry, scotch cap

This arching or erect native bramble, with many rounded canes (woody stems), grows 6–12 feet tall, emerging from woody, branching taproots. Sparsely armed with curved prickles, it takes root where the cane tips touch the ground. The smooth, blue-green stems are coated with a blue-white, waxy powder called a bloom.

Primocanes (first-year stems) only bear leaves, while floricanes (the second-year, lateral branches) bear flowers and fruit, before the canes die to the ground for the winter, to renew the cycle the following year.

Black raspberries have sharply, double-toothed, palmate-compound leaves that are hairy-white underneath. Primocanes have three leaflets, while

floricanes have five. Growing around 3 inches long and 2 inches wide, the leaflets are oval to heart-shaped. The leading leaflet has a short leafstalk, which the lateral leaflets lack. So does poison ivy (Toxicodendron radicans), which has few if any teeth and no prickles.

With five to seven elliptical to oblong petals, the white to pink flowers grow ½ inch across and bloom in mid to late spring. They grow above five triangular sepals that spread beyond the edge of both the flowers and the ensuing berries, both of which are arrayed in clusters of three to five on short, flattened, terminal racemes.

The hollow aggregate fruits, ⅓–½ inch across, are ovoid and hemispheric. They begin green, change to red, and mature as black. Each subsection, a fruitlet, encloses one small, hard seed. The fruit ripens in early summer and is gone by mid-summer.

Blackberries (see p. 181) look superficially similar, but they mature later; the fruit isn't hollow; the stems are angled, not round; there's no waxy powder; and the prickles are dense, not sparse.

The black raspberry grows in full sunlight or partially sunny thickets, along trailsides, in overgrown vacant lots and fields, in open deciduous woodlands, along woodland borders and fence rows, and in savannas and disturbed habitats. It ranges throughout most of eastern North America.

Using your fingers, pick only the completely ripe, totally black fruits that detach easily. Wearing work gloves with the fingertips of the dominant hand's gloves cut off and attaching a container to your clothing or backpack make collecting more efficient. Wearing long pants and sleeves, and planning your foraging for a relatively cool day in early morning also help.

Wild black raspberries are much tastier than their wimpy store-bought descendants. Use them raw or cooked in virtually any recipe that calls for fruit, such as cereals, pancakes, muffins, sauces, pies, fruit salads, compotes, puddings, ice creams, jams, jellies, and smoothies. The hard seeds become annoying in puréed recipes, so pass this through a strainer as part of the procedure.

Black raspberries give you vitamins A, E, K, C, thiamin, riboflavin, niacin, B6, pantothenic acid, and folate, as well as the minerals calcium, iron, manganese, magnesium, phosphorus, potassium, sodium, zinc, copper, manganese, and selenium. They also provide healthful antioxidants such as ellagic acid, the flavonoids quercetin and kaempferol, and the cyanidin-based molecules cyanidin-3-glucosylrutinoside and cyanidin-3-rutinoside.

Anthocyanins, which color this fruit, have been shown to be beneficial to vision, cardiovascular health, and memory retention in old age. They reduce risk of hypertension, and may also lower the risk of cancer. They inhibit

pathogens such as *Candida albicans*, which causes yeast infections and could aggravate irritable bowel syndrome.

An infusion of the leaves and roots is a major tonic for the female reproductive system, used for centuries by Native Americans, European, and East Asian herbalists. It's constituents that both stimulate and relax the uterus, and is recommended during the last three months of gestation, for childbirth, to reduce the symptoms of menopause, and for menstrual cramps.

It's also used as an astringent for diarrhea, especially for children, because it's more gentle than other herbs. It's recommended for nausea and to suppress vomiting, as a gargle for tonsillitis and mouth inflammations, as a poultice for sores, and as a wash for conjunctivitis, minor wounds, burns, and varicose ulcers.

Black raspberries are currently being tested in humans to see if compounds they contain could shrink malignant esophageal and colon tumors.

RECIPE

Black Raspberry Ice Pops

Here's a delicious, healthful alternative to the artificially colored, high-fructose, and corn syrup junk kids stuff themselves with in the summer.

3 cups water

3 cups black raspberries or other berries

½ tbsp clear liquid stevia

½ tbsp lemon juice

1. Purée all ingredients in a blender.
2. Remove the seeds using a strainer.
3. Pour into 8 pops mold divisions and freeze.

Yields: 8 pops

Preparation time: 5 minutes

Freezing time: 6 hours (varies)

Wineberry
(*Rubus phoenicolasius*)

Family: Rosaceae, the rose family

Other names: Japanese wineberry, wine raspberry

This common, invasive bramble helped get me hooked on foraging very early on. It's easy to recognize, there are no poisonous look-alikes, and it's incredibly delicious.

Growing 3–9 feet tall, with its bristly, reddish, glandular hairs (*phoenicolasius* means purple hairs), these upright, multistemmed biennial canes arise from perennial roots, with new roots forming when the tips of the arching stems touch the ground.

New stems with leaves only come up the first year. Side branches with flowers and fruits appear the second year, before the branch dies to the ground, and the cycle repeats.

Growing from 4 to 7 inches long, the palmate-compound leaves are composed of three large, broadly oval, pointy-tipped, sharply toothed, papery

leaflets. They're green above and matted with very fine, whitish, wooly hairs underneath.

The tiny, white, inconspicuous, five-petaled flowers, ⅕–⅖ inch across, bloom in mid-spring on bristly, many-flowered panicles, emerging from the side shoots. It's five long, narrow, triangular, bristly sepals, which are supported by a densely prickly, red flower stalk and create a star-shaped backdrop for the flower.

These sepals close over the flower after fertilization, then open again in mid-summer, revealing an orange, aggregate fruit that becomes bright red, then dark purple-red. The juicy, spherical, hollow berries reach 1 inch or more in diameter, growing in small clusters. An orange receptacle remains behind after you pick the berry.

Other brambles (*Rubus* spp.), also edible, aren't covered with the distinct red bristles, which makes the wineberry easy to recognize, even in the winter.

Wineberries grow in sunny and partially sunny habitats with moist soil; in thickets, fields, disturbed habitats, wetlands, and open woods; and along trails, forest edges, and roadsides. This invasive Asian plant grows in the Mid-Atlantic states, southern New England, and parts of the Deep South.

The berries ripen at the beginning of the second half of the summer, and are gone before late summer begins, although you can use the leaves for tea from mid-spring to fall.

As with other brambles, plan to forage early in the morning on relatively cool days, wearing long pants and sleeves for protection from the bristles and mosquitoes. Wear work gloves with the fingertips cut off the dominant hand, and attach a collecting food container to your clothing or backpack. Keep additional containers in your backpack. The most darkly colored berries are the best.

More flavorful and tart than store-bought raspberries, you can use wineberries in any berry recipe, with superior results guaranteed. The seeds are hard, so strain them out in any recipe that will be puréed, such as jams and sauces. You can make an infusion with the leaves as well.

This plant isn't used medicinally and hasn't been tested for nutrients, although the chances are that it's highly nutritious.

RECIPE

Wineberry Custard

Wineberries, along with other fruits, make this egg-free custard exceptionally tasty.

2 cups coconut milk or other nondairy milk
2 cups wineberries or raspberries
¾ cup of strawberries, sliced
⅔ cup wild or store-bought blueberries
1 green apple, sliced
1 plum, sliced
1 banana, sliced
3 tbsp lecithin granules
½ cup raisins
½ tbsp liquid or powdered stevia
1 tsp agar powder or 1 tbsp agar flakes
¼ tsp freshly grated orange rind or orange extract
¼ tsp vanilla extract
¼ tsp cinnamon, ground

1. Simmer all ingredients together for 10–15 minutes or until the apple slices are tender, stirring often.
2. Chill until set.

Serves: 6

Preparation time: 10 minutes

Cooking time: 15 minutes

Blackberries
(*Rubus* spp.)

Family: Rosaceae, the rose family

Other names: Caneberry, bramble, lawyer

I love blackberries, but they've become very rare in recent years. This is due to too much competition from the iPhone!

Like other similar members of their genus, all of which are edible, blackberries have prickly, arching, woody stems called canes that take root when the tip touches the ground. The canes bear only leaves the first year, then produce flowers that develop into berries the second year. By winter, the aboveground parts all die to the ground, but the perennial roots live on, to renew the cycle the following year. This is an unusual arrangement, but it works, since there are so many species of blackberries and raspberries in so many parts of the world.

People get confused distinguishing blackberries from raspberries, but when you pick a blackberry, a cone-shaped structure at the base of the berry, the receptacle, comes off the stem along with the berry. With raspberries, this is left behind, so raspberries are always hollow, whereas blackberries aren't. Also, raspberries have round stems, while blackberry stems are angled—the surfaces are flat. This lets you tell them apart, even in the winter.

In Shakespeare's day, 500 years ago, people called lawyers "bramble bushes." That's because they both have sharp prickles, they grab on to you, and they don't let go until they've drawn blood—the same as lawyers today!

With the exception of a few cultivars, the bark of blackberries is covered with many short, stiff, sharp spines, so I collect early in the morning, on relatively cool days, wearing long pants and sleeves, plus work gloves with the fingertips of one glove cut off. This, plus a container tied or clipped to my backpack or clothing make collecting much easier.

Blackberries have alternate, palmate-compound leaves with three to seven medium-sized, oval, pointy-tipped, toothed leaflets.

Medium-sized, five-petaled, radially symmetrical, white flowers, with many bushy stamens surrounding the packed central pistils, bloom in the spring,

growing on loose, short racemes on the tips of short, new stems.

Each flower has many ovaries, so it creates many of tiny, blackberries called drupes. Each contains one seed, forming an aggregate fruit that's more seedy, but much tastier than the inferior store-bought blackberries. Wild blackberries, which go from green to red to black, grow from ½ to 1½ inches long, with five sepals beneath each fruit.

All blackberry species are edible, and there are no similar-looking poisonous berries. Mulberries (see p. 155) look a little like blackberries to beginners, but they hang on slender, short stems from trees, the leaves are simple, and there are no thorns.

Poison ivy (Toxicodendron radicans) has palmate-compound leaves and often grows along with blackberries. However, the three-parted leaves aren't sharply toothed, there's no thorny cane, and the flowers and fruits are completely different, so as long as you're on the lookout for it, you'll be able to avoid contact.

Different blackberry species can hybridize, and you never know when someone will bring in a new foreign variety. Nevertheless, there are three common species I find over and over again in New York:

1. The common or Allegheny blackberry (*Rubus allegheniensis*) is the most common, for some reason. It grows 2–8 feet tall, upright or arching, with reddish to purple stems. The prickles are especially nasty. It's three- or five-parted palmate-compound leaves that are pale green beneath. The pointed leaflets grow 3–7 inches long. They're double-toothed, so the teeth themselves bear sharp teeth.

   Long clusters of six to fifteen white flowers, each up to 1 inch long, bloom in late spring and early summer. They're replaced by blackberries under 1 inch long that ripen in the second half of the summer. The season can last three weeks or more, and I sometimes find ripe fruit in late summer.

   Fortunately, unlike in Europe, blackberries here are gone by fall, since you can't eat them anymore after Michaelmas Day, September 29. That's the day Archangel Michael defeated Lucifer and kicked him out

of Heaven. He fell, kicking and screaming, onto a blackberry bush, which scratched him so badly that he cursed it and peed on it, making the berries quite unwholesome from then on!

2. The cut-leaf or evergreen blackberry (*R. laciniatus*) is a cultivated, European species I see planted in parks, and some of these have been bred to lack prickles. Unlike the common blackberry, its sharp-toothed leaves are very deeply lobed, and some leaves persist into the winter. It's as good as the common blackberry and the fruit is larger, over 1 inch long. It also ripens in the second half of the summer.

3. The common or northern dewberry (*R. flagellaris*) has a three-parted leaf and creeps along the ground. Otherwise, it's similar to the common blackberry, but it ripens soon after the start of summer, before the other species.

Blackberries grow in many different habitats, in full sun or partial shade. They tolerate poor soil, and you can find them in thickets and clearings; along roadsides and paths; on hillsides and mountain slopes; in overgrown fields, disturbed habitats, ditches, hedgerows, and empty lots; along fencerows; in pine barrens; in young woodlands; along woodland margins; and in wetlands. My favorite place for them is in bushy fields near the seashore, where, in full sunlight, they're unbelievably abundant and tasty.

Use wild blackberries the same way you use store-bought berries, raw or cooked in pies, cobblers, or any other fruit dishes. The superior flavor more than compensates for the hard seeds, which you hardly notice, unless you purée the berries to make a smoothie or sauce. In that case, pass the purée through a strainer to get rid of the seeds.

The wild blackberry is a superfood, loaded with vitamin C and beta-carotene, plus the minerals potassium, magnesium, calcium, iron, and phosphorous. Blackberries also provide the polyphenol antioxidants ellagic acid, ellagitannins, quercetin, gallic acid, anthocyanins, tannins, and cyanidins, substances shown to reduce the risk of heart disease, diabetes, and cancer.

Due to their tannin content, the roots, cambium, and leaves are astringent. Tannin interferes with mineral absorption, so it's not good to take long term, but a decoction has been used in traditional herbal medicine for diarrhea and bleeding gums (it'll stop the bleeding, but you still need a dentist to treat the underlying infection). Gargling with the decoction lessons the symptoms of sore throat, although it doesn't address the underlying infection.

RECIPE

Blackberry Kasha Breakfast Cereal

Tasty, filling, and nutritious—you can't beat this one any time of the year, and it's simple to make. Serve with the nondairy milk of your choice.

2⅓ cups soy milk, nut milk, or oat milk

1 cup kasha

1 wild apple or small green apple, chopped

½ cup wild or commercial blackberries

¼ cup pine nuts

¼ cup currants

1 tbsp corn oil or vegan butter substitute

1 tbsp lecithin granules

1 tbsp flaxseeds

1 tsp clear liquid stevia or powdered stevia

1 tsp salt

¼ tsp almond extract

¼ tsp mango extract or orange extract

1. Bring all ingredients to a boil in a saucepan over medium heat, stirring constantly.
2. Reduce the heat to low and simmer, covered, for 20 minutes or until all the liquid is absorbed.

Serves: 4–6

Preparation time: 10 minutes

Cooking time: 20 minutes

Blueberries and Huckleberries (*Vaccinium* spp.)

Family: Ericaceae, the heath or heather family

Growing from 1½ to 14 feet tall, these closely related deciduous shrubs have fruit that looks like store-bought blueberries, only smaller. The smooth bark is colored red and green when young, becoming craggy and brown with maturity in blueberries, but staying smooth and dark in huckleberries. The twigs are slender and green. Sometimes leathery, the elliptical leaves grow from ½ to 3 inches long, and from ⅕ to ½ inch wide. Blueberry leaves have fine teeth, while huckleberry leaves have smooth edges, plus tiny but distinctive golden resin dots on their undersides. White, five-parted, bell-shaped flowers—sometimes tinged with pink, red, or green—bloom on terminal clusters in the spring. The spherical, blue or dark blue berries, green and purple when immature, grow from ⅕ to ⅗ inch across, like store-bought blueberries, but smaller. Unlike the similar European or common buckthorn (*Rhamnus cathartica*), which has smooth, undifferentiated fruit, each blueberry and

huckleberry has a distinctive, five-parted, flared, star-like crown at the tip. Buckthorns are poisonous, so check for the crown.

Juneberries (see p. 160) look a little like blueberries, and the edible fruit has a crown, but it's a larger shrub or tree, with smooth, gray, vertically striped bark.

Blueberries and huckleberries ripen in mid-summer, sometimes persisting into early autumn. Blueberries are lighter blue than huckleberries, the crown is more pronounced, and they're powdered with a whitish, waxy bloom you can rub off with your fingers. The flesh is white or greenish, and the seeds are too small to notice. Huckleberries are darker and smaller than blueberries. The flesh is red or purple, and you can detect the ten tiny, crunchy seeds when you eat the berry. They're all delicious.

People take it for granted that the foods you buy have been cultivated for hundreds of years, but this isn't so for blueberries. In the early twentieth century, people who lived in the Pine Barrens, New Jersey (so-named because only cranberries could be cultivated in the sandy soil of terrain that used to be under the Atlantic Ocean), thought that blueberries, which the disparaged "Pineys" collected for personal use, couldn't be cultivated. But a local farmer, Elizabeth Coleman White, advertised in local newspapers for people to send her as many varieties as possible. She succeeded, and first brought blueberries to NYC markets in the 1920s.

For tall people, the highbush blueberry (*Vaccinium corymbosum*) is the most suitable. Growing over 14 feet tall, with large, easy-to-collect berries. Kid will love the lowbush blueberry (*V. angustifolium*), only 1 foot tall, forming dense thickets. The huckleberry (*V. parvifolium*), also very short and forming dense stands, is also good for kids, but not for adults with back problems.

These berries grow in moist, acidic soil, in partly or completely shaded places. Look for them on mountains, in thickets, along roadsides and lakesides, and in swamps and bogs. Some years are much better for these berries than others. Collect with your fingers and transfer to a container attached to your clothing or backpack, to keep both hands free. For even faster collection, get a blueberry scoop online. Use these fruits like store-bought blueberries in any kind of dessert. Like apples, they contain pectin, a thickener, so you'll need less thickener than for other desserts.

Blueberries received lots of well-publicized scientific scrutiny. I need to find their press agent to promote my tours and books! They're a great source of vitamins B6, C, and K; the mineral manganese; and health-promoting anthocyanins, proanthocyanidins, resveratrol, flavonols, and tannins. They're good for digestion and may kill harmful organisms in the digestive tract. Neomyrtilicine, found in the leaves, reduces blood sugar levels, and an infusion has been used to treat diabetes. Research has shown that the tannin in the infusion is good for urinary tract inflammations. Another substance in blueberry leaves blocks replication of the hepatitis C virus and might lead to a treatment. Pterostilbene, present in the fruit, boosts the innate immune system, like the better-know resveratrol in red wine, which works with vitamin D to increase the expression of the human cathelicidin antimicrobial peptide gene (good for immunity). Eating blueberries reduces stroke damage in lab animals, which also benefit from reduced cholesterol and lowered total blood

lipid levels. It even lessens high blood pressure and builds bone mass in lab animals, a possible treatment for osteoporosis, but all this needs to be tested in humans.

RECIPE

Wildest Blueberry Jam

My vegan method for making jam works perfectly with wild blueberries. You'll love this one, and if you can't find wild blueberries, they sell them dried in health food stores and online. In addition to using this as a spread, you can add it to smoothies or use it as a dressing for fruit salad.

1 cup dried or fresh wild (or commercial) blueberries

1 cup blueberry juice concentrate

1⅔ cups water

1¼ tsp agar powder or 1¼ tbsp agar flakes

1 tsp liquid or powdered stevia

½ tsp freshly grated lemon rind

¼ tsp salt

1. Simmer all ingredients for 5 minutes or until the agar has dissolved.
2. Chill until set.

Yields: 3 cups

Preparation/cooking time: 15 minutes

Black Cherry
(*Prunus serotina*)

Family: Rosaceae, the rose family

Other names: Rum cherry, wild black cherry, mountain black cherry

This very common tree gave me quite a scare as a beginning forager, the first time I identified it, a few blocks from where I lived, on a side street in Queens, New York. The flavor was so unusual, I was afraid I might have misidentified it and, too late, had second thoughts about eating the fruit. I was greatly relieved when I woke up the next morning and noticed that I was still alive!

This very common, medium-sized native tree usually reaches 40–60 feet in height, but can grow up to 125 feet tall. The trunk can extend up to 2⅓ feet in diameter. In the forest, it's a straight and narrow tree. In the open, its crown is broad and irregular.

Young trees have shiny, silver bark, streaked with horizontal, whitish lenticels. The mature tree has blocky, cracked bark, upturned in parts, and broken with dark brown, almost black, fissures.

Broken twigs and crushed leaves smell like bitter almond, the same as the inside of the stones of related apricots and peaches. The black birch (Betula lenta) has similar bark, but the broken twigs smell like wintergreen. There are no poisonous look-alikes.

The elliptical, finely toothed, alternate leaves are glossy and sharp pointed. Thick and leathery, they're lighter underneath. They grow 2–5 inches long and 1–1½ inches wide, and turn yellow, orange, or red in the fall. Tiny, orange-brown glands that look like tiny hairs grow along the midrib of the leaf's underside.

After the leaves have appeared in early spring, dense clusters of oblong cylindrical, green, drooping racemes, 4–6 inches long and ¾–1 inch across, appear at the tips of the twigs' new growth, with about forty small, radially

symmetrical, white, five-petaled flowers, under ¼ inch across. They smell foul and attract flies for pollination.

Starting in mid-summer, the racemes turn red and bear many spherical, short-stalked, shiny, spherical fruits—red at first, then black. They reach up to ½ inch in diameter. Each cherry contains a hard stone ⅓ inch across.

The closely related and similar edible choke cherry (*Prunus virginiana*, see p. 196) leaves lack the black cherry leaf's orange glands, and the fruit's awful raw, way too astringent to eat, but great cooked.

The sweet cherry (see p. 196) tree is a feral descendent of European cherries, with a reddish bark, but each fruit, which may be red or black, hangs from a single, long fruit stalk emerging from the branches, with no racemes. Also, they ripen at the beginning of the summer. Other edible cherry species similar to the black cherry grow in the Northeast, but I only found one of these. It was in Connecticut, and it looked more like the European species.

Black cherry trees grow in full sunlight and partially shaded habitats. The best ones grow in fields near the seashore, but they can also bear excellent fruit in cultivated parks, backyards, thickets, fields, and along residential streets and roadsides. You can find them in mixed hardwood forests, along forest edges, in residential streets, and along trail and field edges.

To collect black cherries, clip a container to your clothing or backpack, or tie it around your neck or to your belt with a string, and strip the ripe cherries off the racemes with your fingers. When the collecting container is full, transfer your harvest to another container and resume collecting.

The quality of this fruit varies greatly from tree to tree, and from year to year. Look for trees growing in full sunlight with an abundance of relatively large, soft fruit. These are usually the best. Some years you'll find many such trees, other years there will be nothing worth harvesting.

The intense flavor of black cherries is complex. They taste somewhat like store-bought cherries, but bittersweet, with an overtone of grapefruit. If you get good ones, they're great raw or cooked. Simmer them in fruit juice, such as cherry juice, with a thickener and sweetener, then pass through a food mill to remove the stones. Use the purée to make jams, jellies, pie fillings, sauces,

puddings, fruit leather, smoothies, or anything else that strikes your fancy. They're especially good in chocolate desserts. Use sparingly with other fruits, or the cherries will overpower them.

The fruit is very nutritious, providing vitamins A, B1, C, folate, and pantothenic acid, plus the minerals calcium, magnesium, iron, sodium, phosphorus, potassium, copper, selenium, and zinc.

It's also an important traditional medicine that has received some scientific scrutiny. Native Americans used an infusion of the cambium for coughs. European settlers took this up, so that when people started selling cough medicines, no one would buy them unless they contained black cherry, a tradition that accounts for cherry flavor in over-the-counter cough medicines today.

Black cherry cambium infusion contains prunasin, which is destroyed by boiling, so you don't make a decoction with it. Although this substance is a chemical precursor of cyanide, low doses are safe. It's excreted mainly through the lungs, where it stimulates respiration and suppresses the cough reflex. High doses, on the other hand, are dangerous. If cyanide is formed, it can be deadly.

It's used as a decongestant and expectorant in traditional herbal medicine, plus a sedative and disinfectant. It's also been used for infections, asthma, ulcers, hysteria, mucus congestion, diarrhea, and inflamed gums. It certainly deserves more research to realize its full potential and to rule out uses that don't work.

RECIPE

Black Cherry Chocolate Cookies

Chocolate is one of the best complementary flavors for cherries, and wild black cherries are no exception. These cookies feature a tantalizing balance of both flavors.

Dry Ingredients

2 cups buckwheat flour + 1⅓ cups oat flour

1¼ cups almonds, ground into meal

2 tbsp flaxseeds, ground into ¼ cup

¼ cup arrowroot or kudzu

¼ cup unsweetened cocoa powder

1 tsp dried mint, ground

½ tsp salt

Wet Ingredients

1 cup black cherry purée

½ cup apple juice

2 tbsp almond oil

1 tbsp clear liquid stevia

½ cup dark, unsweetened chocolate, melted in a double boiler

½ tsp amaretto extract or almond extract

1. Mix together the dry ingredients.
2. Mix together the wet ingredients.
3. Mix the wet ingredients into the dry ingredients.
4. Roll the dough into a circle ⅜ inch thick on a floured pastry sheet, using a rolling pin enclosed in a floured sleeve.
5. Cut into cookies with cookie cutters and transfer to two nonstick baking sheets or onto two oiled cookie sheets.
6. Bake for 20–30 minutes or until lightly browned underneath in a preheated 375°F oven.

Yields: 2 dozen cookies

Preparation time: 30 minutes

Cooking time: 30 minutes

Choke Cherry
(*Prunus virginiana*)

Family: Rosaceae, the rose family

Other names: Common chokecherry, black chokecherry, red chokecherry, California chokecherry, Virginia chokecherry, eastern chokecherry, western chokecherry, rum chokecherry, whiskey chokecherry, wild cherry, wild blackcherry, bird cherry, jamcherry, chokeberry, cabinet cherry, chuckley plum, sloe tree, bitter-berry, caupulin

This small native tree or an erect to straggling shrub grows from 20 to 30 feet tall, with a short, irregular trunk, 2–6 inches across. The branches either ascend or spread widely. The brown bark, covered with small, raised, horizontal

lenticels, is smooth when young, then somewhat scaly or wrinkled when mature. Broken twigs smell like bitter almond. The root system can sometimes spread, to create dense thickets. The finely toothed, pointy-tipped, oval to elliptical, alternate leaves grow from 2 to 4 inches long and ¾–2 inches wide. The upper surface is bright green and hairless. The underside is paler and may be matted with very short hairs. From one to two purplish-red glands grow near the leaf base. The leaves turn yellow in autumn. The leafstalks grow from ½ to 1 inch long. Blooming from mid to late spring, the white, five-petaled, sweetly almond-scented flowers hang from long, crowded racemes, 3½–6 inches long and about 1 inch across. From ten to twenty-five flowers grow on each raceme. Each flower is ¼–¾ inch across, with fifteen to twenty conspicuous stamens as long as the petals, plus one pistil. The nearly round petals grow to around ⅕ inch long. The flower stalks grow ⅕–⅓ inch long, and the five green sepals are shorter than the petals. Hanging from the same racemes in late summer, ripe, shiny, spherical cherries, dark red, purple, or blackish, grow from from ¼ to ⅜ inch across, and all contain one hard stone. The edible black cherry (see p. 191) looks like the choke cherry, but it's a larger tree, the ripe fruit is always black, and tiny, orange-brown hairs grow along the underside of its leaf's midrib.

People confuse the chokeberry (*Aronia* spp.) with chokecherries because the names are similar, but the two species have very different features. For example, the chokeberry bush's fruit has a crown, which cherries lack, and the astringency of the marginally edible fruit is only removed by juicing the otherwise-awful fruit.

Chokecherries grow in full sunlight and partial shade, on rich, moist soil. You'll find them in thickets, in and along the edges of woods, and near shores. They grow throughout the United States and Canada, except for some Gulf Coast and Southeast states. In New York State, they're very common in some

regions, such as in the Adirondacks, but I've only spotted them growing wild twice in the NYC area, both times in Central Park.

Strip the ripe cherries off the racemes with your fingers and transfer them to containers. Clipping a container to your clothing or backpack makes this easier. They're awful raw, way too astringent and sour. Also, the raw seeds are poisonous if eaten in quantity, but the fruit is great cooked for 5–10 minutes in fruit juice, with a sweetener and thickener. Strain out the seeds using a food

mill, and use the very tasty cooked fruit in jams, sauces, pies, puddings, smoothies, ice cream, and other desserts.

Chokecherries provide vitamins A, B6, C, E, K, thiamine, riboflavin, niacin, and pantothenic acid, as well as the minerals calcium, iron, magnesium, phosphorus, potassium, zinc, copper, and manganese. Native Americans and immigrant settlers used a decoction of the cambium as a sedative, detoxifier, tonic, and appetite stimulant, as well as for coughs, tuberculosis, malaria, stomachaches, and intestinal worms. However, the tree contains hydrogen cyanide. This stimulates respiration and improves digestion in small quantities, and there have been claims that it helps with cancer, although research didn't bear this out. Nevertheless, in large quantities, some of this substance is converted into cyanide, causing respiratory failure and death. Children who ate lots of raw berries and swallowed the seeds died this way, so it is not a safe home remedy.

RECIPE

Choke Cherry Jello

This fruit is as delicious cooked as it's awful raw. Quite tart, it's balanced here with pear juice, raisins, a sweetener, flavorful blueberries, and appropriate seasonings. Agar, as always, is a great jelling substance.

4 cups pear juice

3 cups choke cherries

3 tbsp + 1 tsp agar powder

4 tsp liquid stevia

2 inches vanilla bean or 2 tsp vanilla extract

1 tsp cinnamon, ground

1 tsp almond extract

1 cup blueberries

1 cup raisins

1. Simmer, uncovered, the pear juice, choke cherries, agar, stevia, vanilla bean, cinnamon, and almond extract for 5 minutes. or until the agar is dissolved.
2. Remove the cherry stones and vanilla bean using a food mill.
3. Return the purée to a boil, with the blueberries and raisins, and simmer for another 5 minutes.

4. Chill until set.

Serves: 6

Preparation time: 15 minutes

Cooking time: 10 minutes

Wild Raspberry
(*Rubus strigosus*)

Family: Rosaceae, the rose family

Other names: American red raspberry

My mother, who was born in Europe, where foraging is more common than here, taught me to recognize this berry along with blackberries (see p. 181) and blueberries (see p. 186) when I was a young child, on vacation in the Catskills, New York. She didn't know any other edible species, but the berries were so good, with this in mind, I was very happy to discover that I could learn foraging myself as an adult, as an outgrowth of my interest in cooking, health, and nutrition.

This bramble grows many canes, arching or erect, thorny, rounded woody stems and arising from perennial roots. First-year primocanes have leaves only, while second-year floricanes (lateral branches) bear flowers and fruit, before dying back to the ground.

The alternate, palmate-compound leaves are bright green and consist of three to five (sometimes seven) pointed, toothed, oval leaflets, whitish underneath. They grow 1½–2½ inches long and about half as wide. They turn red and purple in autumn.

The small, white to greenish, five-petaled flowers grow on short, loose, terminal racemes in the second year. They develop into round, downy, red raspberries, each with five triangular sepals at the fruit's base, ripening in mid-summer.

You can find this native fruit throughout North America, except for parts of the Southeast. Look for it in moist, sunny or partially shady habitats, in thickets, along hedges, in overgrown fields, along edges of woods, in openings in the woods, and along trail- and roadsides.

Collect the berries the same as you would black raspberries (see p. 173) and use them in any dessert that calls for berries, straining out the annoyingly hard seeds in any recipe that's puréed. The fruit tastes way better than store-bought raspberries.

This fruit is highly nutritious, providing vitamins A, B1, B2, B6, C, E, K, pantothenic acid, and folate, as well as the minerals and trace minerals calcium, iron, magnesium, phosphorus, potassium, sodium, zinc, copper, manganese, and selenium. It's loaded with healthful antioxidants, such as ellagic acid; the flavonoids quercetin and kaempferol; and the cyanidin-based molecules cyanidin-3-glucosylrutinoside and cyanidin-3-rutinoside.

These phytochemicals show antimicrobial properties, inhibiting pathogens such as *Candida albicans*, which causes yeast infections and could aggravate irritable bowel syndrome. The fruit may also reduce the risk of cancer.

An infusion of the leaves and roots is used as an astringent for diarrhea, especially for children, as it's more mild than other herbal astringents. It's used the same way as black raspberry (see p. 173) for the female reproductive system.

It's also used for nausea and to suppress vomiting, as a gargle for tonsillitis and mouth inflammations, and as a poultice or wash for sores, conjunctivitis, minor wounds, burns, and varicose ulcers. Scientific testing is called for.

RECIPE

Wild Raspberry Jam

Here's a simple, delicious jam you can make with any species of bramble, and it tastes like the berry itself, rather than of the generic jam flavor of store-bought spreads.

4 cups wild raspberries

6 tbsp pear juice

½ tsp agar powder or ½ tbsp agar flakes

1 tbsp clear liquid stevia

1 tbsp red wine (optional)

1 tsp raspberry extract (optional)

¼ tsp orange extract

1. Simmer all ingredients together for 5 minutes or until the agar is dissolved.
2. Purée in a blender, holding down the cover with a dish towel and beginning at low speed at first, to prevent an eruption.
3. Strain out the seeds using a fine-mesh strainer.
4. Test a spoonful in a freezer for 2 minutes. Add water if too thick, or simmer with more agar for 5 minutes if too thin.
5. Chill until set.

Yields: 4 cups

Preparation/cooking time: 15 minutes

Setting time: 90 minutes (varies)

Mayapple
(*Podophyllum peltatum*)

Family: Berberidaceae, the barberry family

Other names: American mandrake, wild mandrake, hogapple, Indian apple, mayflower, umbrella plant, wild lemon, devil's apple

With a single, long, smooth, erect stem reaching 8–20 inches tall, this weird-looking, native colonial perennial spreads via dark brown, fibrous, jointed rhizomes. One large, long-stalked leaf grows from the top of the stem when the plant's young, joined by a second, opposite leaf when the plant gets older.

From 4 to 14 inches across, the spreading, shiny leaves are roughly circular, deeply palmate-lobed, and coarsely toothed toward the five to nine lobes' tips. The lobes themselves are also often partially divided at their tips, making the leaves look like ragged umbrellas that have seen one too many rainstorms.

In mid-spring, only plants with the twin leaves bloom. Only 1 nodding, fragrant, showy, waxy, white, stalked flower, ¾–2 inches across, grows from the

axil, where the two leafstalks diverge. The yellow-orange stamens and the fused pistils are encompassed by six sepals and six to nine petals.

Later on, the flower develops into a solitary, lemon-scented, nodding, ovoid fruit, 1¼–2 inches in diameter. It appears just as the leaves are dying, growing from the leaf axil that hosted the flower. The thick skin is green at first, then turns yellow as the fruit ripens, after it falls to the ground. Inside, it's white flesh and a few hard seeds.

Nothing else resembles the mayapple, but some of the common names are misleading. The mayapple is called the American mandrake, but it's not related to the European mandrake (*Mandragora officinarum*), and doesn't look like it. Other unrelated and different-looking plants that also bloom in May are also called mayflowers.

The mayapple grows in dappled, light shade; in moist, open woods; in thickets; and in fields and pastures throughout eastern North America. The fruits ripen in mid-summer and is gone by late summer.

Collect the fruit from the ground. It continues to ripen after you pick it. Store the unripe fruit in a bowl at room temperature until it's ripe, and refrigerate any ripe fruit. Storing it with apples, which give off ethylene gas, hastens ripening.

Of all the wild fruits, this one provides the worst harvests. Full sunlight will give it the energy to make lots of fruit, but it grows in shady places, so it's only once in very many years that you'll get more than a handful of fruits.

The pulp of this fruit, after you discard the skin and seeds, tastes like lemon custard. It's great raw and makes superb puddings, pie fillings, custards, cake toppings, jellies, or marmalades. It cooks in about 15 minutes. It freezes well too.

Caution: The roots and seeds are poisonous, as is the unripe, green fruit. Eat only the pulp of the soft, ripe, yellow fruit.

Native Americans and traditional American herbalists used the roots as a cathartic, in the days when "cleansing" the foul, sinful human body was considered beneficial. Nowadays, for some reason, giving yourself explosive diarrhea is considered a sign of insanity!

On the other hand, beneficial substances have been extracted from the rhizomes: The resinous podophyllin, although highly allergenic, inhibits cell growth, so doctors apply it topically to treat venereal warts. Another, etoposide, is used, along with other substances, in cancer chemotherapy for Ewing's sarcoma, lung cancer, testicular cancer, lymphoma, nonlymphocytic leukemia, and glioblastoma multiforme. However, the rhizomes themselves are way too poisonous to use in home remedies.

The mayapple can increase longevity, by forcing you to adapt a healthful lifestyle, so you may live long enough to get a good harvest of the fruit!

RECIPE

Sweet Mayapple Smoothie

Here's a healthful beverage that's as simple to make as it's tasty.

3 cups soy milk, nut milk, or oat milk
1¼ cup mayapple pulp or the flesh of 1 mango, coarsely chopped
2 tbsp lemon juice
¼ cup silken tofu
¼ cup raw cashews
1 tbsp clear liquid stevia
1 tsp grape seed oil, almond oil, sunflower oil, apricot kernel oil, or other light oil

1. Purée all ingredients in a blender.

Yields: 5 cup
Preparation time: 5 minutes

Common Elderberry (*Sambucus canadensis*)

Family: Adoxaceae, the moschatel family

Other names: Elderblow, American elderberry, American elder, common elder, elder, elderberry

This large, common shrub, native to eastern North America, often grows in dense stands. It reaches from 5 to 15 feet tall and becomes just as wide. The crown is broad and rounded, and the arching branches are slender. The smooth, gray bark is marred by corky bumps, lenticels, which allow exchange of gasses with the atmosphere. There's a white, spongy pith inside the branches and twigs. The feather-compound leaves, which can grow over 3 feet long, are divided into five to eleven opposite, saw-toothed, short-stalked, pointed, elliptical, dark green leaflets, 2–7 inches long and half as wide. The single leading leaflet is longer than the rest. They smell foul when bruised or cut, and turn yellow, orange, and red in autumn. The large, showy, slightly rounded to flat-topped flower heads consist of lacy panicles of many tiny, branched, five-feet-petaled, star-shaped flowers. Fragrant and white when young, they become

musty and yellowish and with age. They bloom in late spring and early summer. Many tiny, spherical, shiny, purple-black, juicy berries weigh down the panicles from the middle of the summer through early autumn. Each berry grows ⅛–¼ inch in diameter and contains 3–5 tiny, hard seeds.

Caution: Extremely inattentive people have confused the very deadly water hemlock (*Cicuta maculata*) with elderberries, even though the latter is non-woody and not a shrub. It does have umbrella-like clusters of white flowers and feather-compound leaves, but, unlike the elderberry, the leaves are twice or thrice compound, and nothing else is similar. Devil's walkingstick (Aralia spinosa) is a shrub or small tree with alternate feather-compound leaves a little like the elderberries', but it's fiercely prickly; the leaves are alternate, not opposite; and the poisonous flowers and toxic berries (the peeled shoots are edible) are arranged in small circles. Other elderberry species (*Sambucus* spp.), some better to eat than others, grow in different parts of North America.

Look for elderberry bushes in partial shade and in moist and dry places. It grows in thickets, along trail- and roadsides, and in edge habitats, open woods, marshes, and cultivated parks. You can harvest the flowers or berries by breaking off the flower- or fruit heads and taking them home. This takes almost no time, but separating the flowers or berries from the stalks is more labor intensive. Freezing the berries on a tray or cookie sheet beforehand makes this faster. Throw out all the mildly toxic stems.

The fresh flowers taste like vanilla. The old flowers are awful. Inedible raw, the young flowers are great dipped in pancake batter and fried into fritters, or cooked in oatmeal or other hot cereals. You may also soak the flowers in vinegar for a few weeks, refrigerated, before straining them out, to flavor the vinegar. They also make a great wine, which is also a superb vehicle for hiding arsenic, as in the classic movie, *Arsenic and Old Lace.* The crunchy, flavorful berries are great in any fruit dish, but unlike other berries, they're not sweet, so add a sweetener. They taste much better cooked than raw, and some people

experience gastric distress from eating raw elderberries, so this isn't the best fruit for raw food enthusiasts.

The berries provide vitamin C, beta-carotene, sugar, and fruit acids, plus the minerals potassium, calcium, and phosphorous. The flowers haven't been analyzed for nutrients. This species is used medicinally by Native Americans, and Hippocrates used a European species in 400 BC, but only the flowers and berries are suitable for home remedies. The rest of the plant is loaded with cyanide, a point dramatically driven home when my then 10-year-old daughter and I were hired to lead a private tour on a farm in 2014. Two of their goats had died, and the vet didn't know what plant could be killing them. During the two-hour tour, we looked at plant after plant without finding the culprit. I love animals and was becoming dismayed, when, at the literal last minute of the tour, we came across an elderberry bush stripped of its leaves, while the surviving goats, who had been following us, were clamoring for more. Fortunately, the second I denounced the guilty party, the farmers collectively yanked this large shrub out of the ground and replanted it behind a fence, in a goat-free area. The cyanide-deprived goats had nothing better to do than to try to clamber on top of my daughter to feast on black birch (Betula lenta) leaves, as she bent down the branches for them.

Distilled elderflower water is used to clean the skin, lighten freckles, and treat sunburn. An infusion or tincture of the flowers is used as an astringent, an expectorant, and a diaphoretic. Along with yarrow and peppermint, it's recommended by herbalists for colds, flu, and asthma. An increasing body of research supports this, indicating that extracts do help the immune system combat influenza. They'll shorten the time you're sick with either virus by around four days. The research was done with various species, but it's likely our native species works too. An infusion of the flowers is also used to soothe children's upset stomachs, and for flatulence. It's applied externally for swellings, rashes, and chilblains, and used as an eyewash for conjunctivitis and eye inflammations. Herbalists steep the flowers in oil to make a massage lotion and to apply to burns and rashes. However, there's also evidence that applying oil to burns is counterproductive.

RECIPE

Elderberry Pancakes

The inclusion of elderberries here brings out the best of my basic pancake formulation.

Dry Ingredients

1½ cups buckwheat flour + 1½ cups sweet brown rice flour

2 tbsp flaxseeds, ground into 5 tbsp of meal

½ tbsp cream of tartar

1 tsp baking soda

1 tsp ground wild ginger or 1 tsp powdered ginger

½ tsp salt

Ingredients to Blend

3¾ cups soy milk, oat milk, or nut milk

¼ cup corn oil, vegan butter substitute, or sesame oil

¼ cup lecithin granules

2 tsp clear liquid stevia

Other Ingredient

1 cup fresh elderberries

1. Mix together the dry ingredients.
2. Purée the ingredients to blend in a blender.
3. Mix the blended ingredients into the dry ingredients. Don't overmix.
4. Stir in the berries.
5. Pour a ladle full of the batter onto a hot, oiled griddle and cook until lightly browned underneath.
6. Flip with a spatula and cook until lightly browned underneath again.
7. Repeat steps 5 and 6 until all the batter are used up.

Yields: 20 pancakes

Preparation/cooking time: 45 minutes

Sumac
(*Rhus* spp.)

Family: Anacardiaceae, the cashew or sumac family
These shrubs or small trees grow 4–30 feet tall, often forming dense stands and spreading by underground runners. The stocky twigs exude a sticky, white latex sap when injured.

The alternate, feather- (sometimes palmate-) compound leaves may grow more than 2 feet long, with a lemony fragrance and many paired, elliptical to

lance-shaped leaflets, which turn scarlet in autumn. They are pointed at both ends.

The many, tiny, yellow-green, five-petaled, fragrant flowers bloom on terminal spikes or panicles, 2 inches to 1 foot long, in mid-summer. They develop into dense clusters of small, hard, dry, sticky, spherical red fruits called drupes, each containing a tiny hard seed inside. They become rust-colored as they age, fading more if they persist on their stiff, brown, branching stems in the winter. Many species, all good to use, grow throughout North America. Here are the four I find in New York and vicinity:

1. Staghorn sumac or red sumac (*Rhus typhina*), a shrub or small tree, grows mostly from 4 to 15 (sometimes 30) feet tall. Usually lacking a trunk, the spreading branches form a wide crown. It's distinctly covered with furry velvet, so the bare forked branches look like antlers in the winter.

   Each feather-compound leaf comes with eleven to thirty-one sharply toothed, lance-shaped leaflets. The leafstalks are densely covered with rust-colored hairs.

   Dense, cone-shaped, male and female flower clusters, each 8 inches long, may grow on the same, or on separate, shrubs. In late summer or early fall, the female flowers develop into furry, scarlet drupes, ⅛ inch across.

2. Smooth sumac or red sumac *(R. glabra)* is another shrub or small tree. This one grows up to 20 feet tall, with feather-compound leaves 12–18 inches long. Its eleven to thirty-one lance-shaped leaflets, whitish underneath, grow from 2 to 4 inches long.

   A smooth, reddish midrib grows between the leaflets. Dense, cone-shaped clusters of male and female flowers, 8 inches long, bloom on separate plants. This species isn't hairy. Its fruit clusters, looser than staghorn sumac's, are shaped like a Christmas tree.

3. Winged, dwarf, or shining sumac (*R. copallina*) is a small tree growing up to 30 feet tall, with a short trunk and spreading branches. Its feather-compound leaves may reach up to 12 inches long, with seven

to fifteen shiny, mostly toothless leaflets. Distinct pairs of thin, flat membranes, called “wings,” grow on both sides of the midrib. The flowers bloom on pyramidal panicles 3–5 inches wide. The short-hairy fruit clusters aren't as dense as the other species.

4. Skunkbush, sourberry, three-leaf sumac, or squawbush's (*R. trilobata*) densely, hairy twigs produce an intense, skunk-like odor when broken. The three-parted, palmate-compound leaves grows 2–3 inches long, with very coarsely toothed or lobed leaflets that are dark green and shiny above.

Small, white to creamy, yellow flowers grow in spikelike terminal clusters. The clusters of drupes that follow are much smaller than the other species, but the berries are a little larger.

Poison sumac (*Toxicodendron vernix*) is a rare species that grows in sandy swamps; has white berries, not red ones; and the panicles droop, rather than growing upright. People don't like it, but it has one redeeming quality—it makes you appreciate poison ivy (Toxicodendron radicans): Poison ivy gives you a very bad, itchy rash that lasts around a week and goes away. Poison sumac's rash is much worse. It lasts a month or longer, and after it goes away, it comes back again. Give me poison ivy any time!

Other trees have feather-compound leaves, such as black walnut (see p. 279), Kentucky coffee tree (Gymnocladus dioica), and ailanthus (*Ailanthus altissima*), but they're large trees. Devil's walkingstick (Aralia spinosa) has feather-compound leaves and it's smaller than the others, but it's fiercely prickly. Also, only sumac twigs release white latex when broken.

Smooth sumac is native to most of North America. Staghorn and winged sumac are native throughout most of eastern and much of central North America. Skunkbush is native to the western half of North America, but landscapers plant it widely in parks and cultivated places. Otherwise, look for sumac in full or partial sunlight, in old fields and thickets, along the edges of woods, in disturbed areas, along stream banks and roadsides, near the seashore, and on dry, sandy, or rocky soil. Smooth sumac and squawbush berries ripen in late summer. Staghorn sumac fruit ripens in early fall, and winged sumac ripens in mid-fall. Collect as soon as you can after the fruit ripens, before rain washes the flavor away. On rare occasions, when a dry fall is followed by a very cold winter, some flavor persists into early spring. Sumac is at its best when the fruit is spotted with whitish deposits of acid. Pinch the fruit, then touch a finger to your tongue, to determine the degree of sourness. Or have someone else do this, and determine the sourness by how much their face twists and contorts!

Don't rinse this fruit before use, or you'll wash away the water-soluble flavor, but shake off any bugs. Submerge the fruit clusters in a bowl of room temperature or warm water, then squeeze and twist it vigorously with your hands for 1–2 minute (you can also steep the clusters in hot water). Strain out the fruit with a fine sieve or cheesecloth-lined colander, sweeten to taste, and enjoy the best pink lemonade you've ever tasted.

People in the Mideast use their species of sumac dried, powdered, mixed with herbs (such as thyme, oregano, savory, salt, and sesame seeds) to make a seasoning called za'atar. You can rub sumac berries that haven't been moistened in a strainer, collect what comes out, and mix it with those flavorings in proportions you like, but I discovered that the best way to use our species as a seasoning is to make sumac concentrate:

Successively rub five batches of sumac in the same water, straining and discarding the sumac each time, until you attain the acidity of lemon juice, and use that with the other za'atar herbs, or use it without other seasonings (in place of lemon juice) in other kinds of recipes. You can freeze the concentrate in ice cube trays, then transfer to a freezer container, and defrost cubes as needed, to make pink lemonade, or as a lemon juice alternative.

You can peel the young growth at the tips of the branches (the shoots) in the spring and use them, raw or cooked, in any vegetable recipe. I find them somewhat bland, but other foragers love them, and some species may be better than others.

Sumac is a great source of vitamin C and may provide healthful proanthocyanidins, as do other brightly colored fruits, but no analysis has been undertaken. Sumac is an astringent, so Native Americans used a compress, externally, on wounds, to slow or stop bleeding. It's also been used as an antiseptic and a tonic. Cold sumac pink lemonade was also used for fever. If it doesn't have antimicrobial properties, the cooling effects would be palliative. A decoction of the cambium, or an infusion of the leaves, was given for diarrhea, dysentery, asthma, urinary tract infections, sore throat, chronic gum problems, and cold sores. Native Americans chewed the root to ease swollen or infected gums and to stop children's bed-wetting, but the plant hasn't been tested scientifically.

RECIPE

Sumac Ice cream

This light, flavorful ice cream imparts the lemony flavor of sumac into every bite.

3½ cups almond milk, coconut milk, soy milk, or any nondairy milk
1 tbsp arrowroot or kudzu
1 tsp agar
¼ cup sumac concentrate
¼ raw cup pine nuts or cashews
¼ cup coconut oil or grape seed oil
¼ cup lecithin granules
¼ cup vegetable glycerin
2 tsp liquid stevia
½ tbsp freshly grated lemon rind
1 tsp wild or commercial mint
½ tsp salt

1. Mix the arrowroot and agar into 2 cups of the nondairy milk, using a whisk.

2. Bring to a boil over medium heat in a heavy saucepan, stirring constantly.

3. Reduce the heat to low and simmer, uncovered, for 5 minutes or until the agar is dissolved and the mixture is thickened, stirring often.
4. Purée with the remaining ingredients in a blender.
5. Freeze in an ice cream machine according to the manufacturer's directions.

Yields: 4½ cups

Preparation time: 25 minutes

Freezing time: 2 hours (varies)

Apples and Crab Apples (*Malus* spp.)

Family: Rosaceae, the rose family

What can be easier than recognizing an apple? Apples that resemble store-bought ones are easy to recognize, but small, apple-like fruits may or may not be apples. Nevertheless, all apple varieties have clear and distinct identifying characteristics: They're small- to medium-sized trees, growing from 12 to 36 feet tall. Unless very young, they've scaly, gray, brown, or reddish-brown bark, and dense, twiggy crown. The thirty to fifty-five species are nearly always thornless, unlike the similar hawthorn (see p. 224). The coarse, elliptical,

pointed, stalked, slightly toothed, alternate leaves are slightly fuzzy underneath. Medium to dark green, they grow from 1 to 4 inches long. The short-lived, fragrant flowers bloom in early spring and grow up to ¾ inch across. The five radially symmetrical petals may be white, pink, or red.

Apples usually ripen in late summer and autumn, although I've found one tree with ripe fruit in early summer. The red, yellow, or green fruit looks like an imperfect store-bought apple. Crab apples are smaller. The brown, teardrop-shaped seeds grow in sets of five around the core's circumference, a surefire way to distinguish crab apples from other, similar-looking fruit. Cut an apple in half across its “equator,” and you'll see the seeds arranged in a five-parted star. This pentagram made this fruit especially important in witches' ceremonies. It's no coincidence that Snow White's evil stepmother chose an apple to poison her enemy.

Apples that have fallen by themselves, “windfalls,” are the best. Bring strong bags to collect them. They're heavy. If there's insect damage on the skin, ignore it. It's only cosmetic. An insect has taken a bite off the surface and moved on, and the skin has healed. If other bugs have penetrated into the fruit, cut away the “wormy” parts, if there aren't too many. Do this soon after collecting, or the larvae will ruin the fruit. Refrigerate wild apples after collecting and separate any fruit showing signs of damage. Use the damaged ones ASAP. The intact ones may last, refrigerated, for weeks.

Wild apples are usually more tart and flavorful than store-bought ones. You can certainly eat them raw if, like Thoreau, you enjoy eating sour fruit in

the field. Their more intense flavor makes them much better for cooking, in all the same recipes for which you use store-bought fruit. The latter are clones bred for appearance and durability, at the expense of flavor. You won't believe how good the wild apple recipes will taste until you try them. Trees with fruit less than 2 inches across are defined as crab apples. There are many varieties. Some are similar to larger apples, and you can use them the same way. Others seem to be too hard and bitter to eat, but these often transmute in late fall, changing from red or yellow to amber-brown, and becoming very soft. They develop a very sour flavor, similar to tamarind, which most people have tasted in the form of a brown sauce in Indian restaurants. Strain out the seeds, using a food mill or strainer. Sweeten, and use as a sweet-sour condiment. Unsweetened, you can use the sour pulp in recipes that call for lemon or vinegar.

Caution: Apple seeds contain enough cyanide to kill you if you eat enough of them at once. You can core the apples and discard the cores, or strain out the seeds after cooking. Fortunately, cooking also destroys cyanide, so some people make applesauce by simmering chopped up apples, including the cores, plus a sweetener and seasonings, then puréeing everything in a blender. Apple blossoms are nonpoisonous. Some foragers enjoy eating them, although I don't find them at all tasty.

Apples are an excellent source of vitamins A and C, beta-carotene, and folate, plus the minerals calcium, phosphorus, potassium, magnesium, and iron. They contain malic (*Malus* means apple) and tartaric acids, which are supposed to aid in digestion. Their pectin slowly removes heavy metals from the body, but not quickly enough to prevent acute poisoning. For this, you need prompt medical treatment. On the other hand, the pectin helps prevent slow accumulation of such toxins. It also decreases absorption of fat and cholesterol through the small intestine, helpful for preventing heart disease. It does the same with sugars, making it good for diabetics and hypoglycemics.

However, the myth that an apple a day keeps the doctor away is false: While leading a private foraging tour for a group of medical doctors, we came across a magnificent wild apple tree loaded with fruit, but instead of fleeing in disarray, the physicians all ran toward the tree and filled their backpacks with the delicious wild fruit!

RECIPE

Wild Apple Crumble

Wild apples' flavor is far superior to that of commercial apples in desserts, and adding other wild ingredients such as black walnuts, acorn flour, and water mint, if available, makes an already excellent recipe so much better.

Fruit Layer

10 cups wild or Granny Smith apples, sliced

1½ cups pear juice

1 cup raisins

1 tsp cinnamon, ground

2 tsp liquid stevia

Crumble Layer

2½ cup rolled oats

½ cup acorn flour or any whole-grain flour

¼ cup black walnuts, commercial walnuts, or other nuts

⅓ cup walnut oil or other light oil

1 tsp powdered or liquid stevia

¼ tsp nutmeg, ground

¼ tsp salt

1. Mix the fruit layer ingredients together.
2. Mix the crumble layer ingredients together.
3. Transfer the fruit layer mixture into an oiled baking dish.
4. Press the crumble layer onto the fruit layer.
5. Bake for 1 hour or until the crumble layer is lightly browned and the fruit layer is bubbly in a preheated 350°F oven.

   Serves: 6–8

   Preparation time: 30 minutes

   Cooking time: 60 minutes

Hawthorn
(*Crataegus* spp.)

Family: Rosaceae, the rose family

Other names: Thornapple, hagedorn, haw, hazels, gazels, ladies meat, bread and cheese tree, mayblossom, hedgethorn, maybush, mayflower, whitethorn

The trees and shrubs of this large, varying group include native and Eurasian species. They grow from 15 to 45 feet tall. The branches are bedecked with distinctive, straight, sharp spines 1–5 inches long, making it easy to recognize, even in the winter (although some Florida species that don't grow in the north are spineless). The bark is smooth and gray at first, but develops vertical cracks when the tree gets older.

The leaves are so extremely variable that when a botanist was given two leaves and determined that they were from two different species, it was revealed that they were both from opposite sides of the same tree. The leaves are roughly oval, with a ragged appearance due to uneven teeth and occasional lobes. These medium-sized leaves are deeply veined, and they may spiral around long shoots or grow clustered on small spur shoots that stick out of the branches or twigs.

The showy, white, five-petaled, radially symmetrical flowers bloom in early spring. Before the modern calendar was instituted in 1582, this was at the start of May, not in April, so May 1, Mayday, was the pagan holiday celebrating the start of spring and this tree was the official one to be used as the maypole.

The fly-pollinated flowers, which grow from ½ to ¾ inch across, smell befittingly foul, so in past centuries, it was forbidden to bring them into a house, as the smell of death would portend the death of someone living in the house.

The fruits are round to heart-shaped. They're usually red, but can be dark purple or yellowish. They grow from ¼ to 1 inch across and form loose clusters. Unlike similar-looking crab apples (which don't have thorns), there are one to five large, hard nutlets inside, but no core. No other apple-like fruit has thorns that look like knitting needles.

You can harvest the developing leaves with your fingers toward the end of early spring. The berries of some species ripen in late summer. Autumn is the peak of the season, but some fruits ripen in late fall and persist into the winter.

Hawthorns are commonly planted as street trees and in parks. They used to be planted as thorny hedges. In fact, the word "haw" is an obsolete word for hedge. You can also find hawthorns in thickets and fields, and along forest edges and streams. They grow throughout North America.

Enjoy the fruit raw and spit out the seeds, or cut the flesh away from the seeds with a paring knife and discard the seeds. You can also cook the fruit with the seeds in fruit juice, plus a sweetener and sweet herbs, then strain out the seeds using a food mill. Like apples, hawthorns contain pectin, a natural thickener. You can also steep the fruit in water just off the boil, covered, for 20 minutes to make tea.

Harvest them with your fingers, from the tree or from the ground, and put them into containers. They taste more like apples than like any other fruits, but with a tart flavor all their own. The best species, with the largest fruit (red and the size of a grape), is the Washington hawthorn (Crataegus phaenopyrum) and it's a favorite of landscapers.

However, you do need to be careful with this fruit. Once, an aspiring nutrition student named Madeleine attended my foraging tours. Her university didn't teach the use of herbs, so she used books to study them. She was thrilled when we found ripe hawthorn berries she was able to eat and collect in Prospect Park, New York.

Soon thereafter, she found more on her own in Central Park, New York, near the Alice in Wonderland statue. She looked so happy eating them that after a while, a whole crowd of people had joined her, all except for one man, who stood aside. When Madeleine offered him a berry, he refused. When she asked him why, he told her that he had opened one up and there was a "worm" (actually, the apple maggot) inside.

“There's a worm in mine too,” someone else exclaimed.

“Mine as well,” shouted someone else.

“They're all full of worms,” screamed a third person.

There are two morals to this story:

1. Look before you eat.
2. Never accept a hawthorn from Madeleine! (Fortunately for Madeleine, she's not a vegetarian!)

Some hawthorn trees, such as the ones by the statue, have maggoty fruit every year. Others have them only rarely.

The young leaves are edible in early spring. They're pretty bland, so I occasionally add them to cooked vegetable dishes as a minor ingredient.

The fruit provides vitamins C, B1, B2, B3, B5, B6, B9, and B12, plus PABA, choline, and inositol, as well as flavonoids.

Herbalists have been using hawthorn for heart disease for centuries, and research demonstrates that the fruit's flavonoids can dilate the peripheral blood vessels, lowering blood pressure and reducing the burden on the heart. It slightly dilates the coronary vessels, increases enzymatic activity in the heart muscle, and helps the heart muscle use oxygen. Nevertheless, way more research money went into studying different herbs, such as foxglove (*Digitalis purpurea*) and patentable drugs that effect the heart. There are no pharmaceuticals made from hawthorn, and heart disease is too serious a condition to treat yourself, even if this herb is safe.

Herbalists use hawthorn berry decoction for high and low blood pressure, angina, irregular heartbeat, and the arterial spasms of Reynaud's disease; but it takes about six weeks before the herb takes effect; and since heart disease can be dangerous, it's best to use in conjunction with the care of a cardiologist.

Herbalists also use a decoction of unripe hawthorn berries for diarrhea. Hawthorn flower infusion has been used as a diuretic, and a decoction of the ripe berries has been used for sore throats, skin diseases, diarrhea, and abdominal distention. None of these uses has been studied scientifically.

RECIPE

Lemony Hawthorn Pudding

Here's an improved version of a traditional pudding, enhanced with whole, vegan ingredients and an especially tasty wild fruit.

3½ cups soy milk or other nondairy milk

2 cups large hawthorn berries

½ cup walnut oil or almond oil

¼ cup lecithin granules

¼ cup pine nuts or cashews

¼ cup vegetable glycerin

1 tbsp arrowroot

1 tbsp clear liquid stevia

2 tsp agar powder

2 tbsp lemon juice

½ tsp vanilla extract

¼ tsp almond extract

¼ tsp salt

⅓ cup raisins

1. Cut the flesh away from the seeds of the hawthorns with a paring knife and discard the seeds.
2. Purée all ingredients except the hawthorns and raisins in a blender.
3. Transfer this to a heavy saucepan with the remaining ingredients and bring to a boil over medium heat, stirring constantly.
4. Reduce the heat to low and simmer, uncovered, for 10 minutes or until the agar is dissolved and the pudding has thickened, stirring often.
5. Chill.

Serves: 6

Preparation time: 30 minutes

Cooking time: 20 minutes

American Hackberry
(*Celtis occidentalis*)

Family: Cannabaceae, the hemp family

Other names: Common hackberry, nettletree, beaverwood, northern hackberry

This small native tree usually grows from 30 to 60 feet tall, but can reach 100 feet in height under optimal conditions. The crown is rounded. The branches can spread or droop slightly. The trunk can reach 1–2 feet in diameter, and the gray bark is corky-looking.

The simple, rough, oval, stalked, dull green, finely toothed, alternate leaves grow from 2 to 5 inches long and 1–2 inches wide. Three long veins run the length of the leaf, but what makes their shape striking is the long, pointed tip, and the asymmetrical, rounded base, which is always larger on one side of the midrib than on the other.

Horticulturalists, who care much more about appearance than flavor, are galled by this tree, because it's subject to two nonfatal deformities:

1. An insect-transmitted fungal infection twists the twigs so they point in all directions, a condition called witch's broom.

2. In addition, the female American hackberry gall wasp stings the leaves, lays its eggs, and inserts its own DNA. This forces the leaf to form distinctive, nipple-shaped galls, in which the larvae feed and develop in safety. When mature, each young wasp drills a hole through the underside of the leaf, escapes, and renews the cycle.

How can you account for such genetically modified organisms in our ecosystems? There can be only one explanation: Monsanto must have been around way longer than they let us know, and released these Franken-bugs millions of years ago to promulgate their evil agenda!

The tiny, light green, bilaterally symmetrical, wind-pollinated flowers are the least conspicuous parts of the tree. With four or five lobes, they bloom soon after the leaves have begun to grow.

The small, spherical, solitary berries grow from ¼ to ⅓ inch in diameter. They're often orange-brown when ripe, but may be dark purple as well. They grow suspended from the twigs on slender stalks, around ⅓ inch long. Inside the thin, dry flesh is a large, spherical, hard, cream-colored seed. Partially decomposed berries often cling to the tree through the winter, making it easy to recognize even then. No other tree in the Northeast looks like the hackberry, although it's relatives in other parts of the country and may hybridize with these where their ranges overlap. It grows throughout most of eastern and central North America and most of southeastern Canada, but not in Vermont or Louisiana.

This tree grows in full sun or partial shade. Look for it in rich, moist soil, gravelly or rocky hillsides, woodlands, parks, backyards, empty lots, riverbanks, rocky barrens, and floodplains.

You can pick the berries with your fingers, but they're small, making collecting them labor-intensive. However, Eugene Dubois, the first scientist to search for fossil evidence of human ancestors, excavated fossils of Java Man (*Homo erectus*) in a cave in Java, Indonesia, in 1891, along with piles of the seeds of an Asian species of hackberries. These close relatives of modern humans had collected hackberries (probably using my app!) and brought them to their dwellings, something apes never do. So if you don't have the patience

to collect these berries yourself, ask a *H. erectus* (the surviving individuals are all public officials) for help!

The berries are sweet, and one of my favorite trail nibbles. To me, they taste like the candy coating of M&Ms. Unfortunately, they're too small for making recipes.

I'd always found the seeds to be as hard as rocks and spit them out. However, foragers in other parts of the country reported the seeds to be edible and crunchy. For decades, I assumed they still had the teeth of *H. erectus* to be able to chew such seeds; but after 31 years, I tested the seeds of a hackberry tree I'd been foraging from in Central Park for decades; and, to my surprise, they were crunchy and tasty. So far, that's the only tree I've found with edible seeds, so this variety must be rare in the Greater New York Region.

The berries haven't been analyzed for nutrients and the plant isn't used medicinally, although in the past, a decoction of the cambium was used as a gargle for sore throats and for pain. The berries were also used for dysentery, but there's no evidence that they really work.

Wild Grapes
(*Vitis* spp.)

Family: Vitaceae, the grape family

Other names: Beach Plum Bush, Seaside Plum

People are surprised that grapes grow wild throughout North America, but when Leif Erikson landed in Newfoundland around AD 1000, there were so many native grapes, he called the region Vineland. Grapes are high-climbing

woody vines that shed bark in distinctive vertical strips, making identification easy all year. Grapes can grow close to the ground and form thickets, or reach from 60 to 100 feet in height. Although the alternate leaves range from broadly triangular to nearly heart-shaped, or oval, and are partially divided into three or lobed, they usually look like maple leaves. They grow from 2 to 8 inches long, and just as wide. Growing opposite to the leaves, persistent forked tendrils shaped like the letter “Y” cling onto trees and fences. They become dark brown and brittle with age. Long clusters of inconspicuous, tiny, fragrant, five-petaled, yellow-green flowers bloom in mid-spring, hanging from the leaf axils. Sometimes tinged with green or red, they mature into dark purple, thick-skinned grapes in autumn. Growing in long clusters of close to twenty, the grapes reach from ½ to ¾ inch across, with two to six small, hard seeds inside. The largest and best species is the fox grape (*Vitis labrusca*), which was interbred with European grapes to create the Concorde grape. Because wild grapes hybridize with each other and with European cultivars, it's hard to tell which species you've, but they're all good to eat, although some varieties are more sour than others.

Grapes are easy to tell apart from poisonouss look-alikes if you check for the distinguishing characteristics. If not, you may poison yourself. Canada moonseed (*Menispermum canadense*) is a rare vine with leaves and fruit similar to grapes, but the fruit contains one crescent-shaped seed, not many seeds like grapes, and it lacks tendrils, twining around its support structure. Also, the leafstalk perforates the leaf, near the base, something grapes never do. Poisoning may be fatal, so there's one good thing to do with Canada moonseed berries: Send them back to Canada! Likewise, you can send Virginia creeper (*Parthenocissus quinquefolia*) back to Virginia! This very common, low-climbing toxic vine has spherical fruits that look enough like grapes that people have eaten them, sickened themselves, and sometimes died. However, the leaf is completely different from the grape's maple-like leaf. It's a palmate-compound leaf, with five-toothed leaflets, spreading out from the base like a fan. Porcelainberry or Amur pepperoni (*Ampelopsis brevipedunculata*) has leaves similar to grape leaves, but the vine is non woody, and doesn't peel in

long strips like grape vines. It has a white pith, whereas grape vines have a brown pith. The decorative berries may be blue, purple, turquoise, or white, nothing like grapes, so people have poisoned themselves with leaves. On the upside, this is the best of any poisonous plant to eat, if you must do so: it gives you a stomachache, you throw up, and recover quickly!

The fruits of various grape species ripen from early to late fall, and rarely at the end of summer. Grape leaves and tendrils are in season from mid-spring through early summer. Here's how I learned that the medium-sized leaves are the best ones to harvest: One day in May, around 1980, while bicycling past Cunningham Park in Queens, New York, for exercise, at a time when I was exploring the culinary possibilities of ethnic foods in local markets and bringing concepts of nutrition into my culinary experiments, I passed a group of ethnic Greek women, garbed in traditional black, harvesting food in the woods. I asked them what they were doing, but couldn't understand a word: it was all Greek to me! Nevertheless, I came home with a bagful of grape leaves. They even showed me that the medium-sized leaves were the best. You can't stuff the tiny ones, and the largest ones are too tough and coarse. I stuffed they leaves, they were delicious, then I returned in the fall and found the woodlands festooned with fox grapes. That's how I began foraging. A year later, foraging in the same park, it struck me that other people might enjoy wild foods as much as me, and decided to try leading foraging tours, which I began in 1982.

Grapes grow in partially shaded habitats, such as thickets, open woodlands, parks, edges habitats, and fields; along streams and riverbanks; in wetlands; and near the seashore. Usually only a fraction of grape vines produce grapes, and you sometimes have to look closely under the mass of leaves to spot them. Grape harvests vary from year to year, dry years being the best. Gather the leaves and tendrils by stripping them off with your fingers. Break off clusters of grapes and pull off the individual grapes, either before placing them in food containers or after you get home. Young grape tendrils make a flavorful, lemony trail nibble or garnish. Young wild grape leaves are quite delicious, cooked until soft enough to chew. Cut off the stems and simmer the leaves in lightly salted water, with a dash of olive oil or vinegar if desired, for about 1 minute, or until tender enough to chew, but not mushy. Drain in a colander and plunge this into cold water to halt the cooking. Place a dollop of any kind

of stuffing you like (traditional or original), fold the left and right sides of the leaf over the stuffing, then roll up the rest of the leaf from the bottom. Wild grapes are sour and seedy, and have tough skins, but they're much more flavorful than store-bought grapes. They're fine raw if you like sour fruit, and superb cooked with a sweetener and thickener, then passed through a food mill to remove the seeds. You can use them in any recipe that calls for fruit. Of course, wild grapes are also superb for wine-making.

Grape leaves are an excellent source of beta-carotene and vitamin B3. The fruit provides beta-carotene, potassium, fructose, tartaric acid, flavonols, caffeic acid, ellagic acid, quercetin, tannin, malic acid, plus resveratrol, the substance in red wine that accounts for its health benefits. It reduces blood platelets' stickiness (lowering the chance of clots) and raises levels of the good cholesterol reducing the risk of cardiovascular disease. It also can sensitize prostate cancer cells to radiation, making radiotherapy more effective. Grapes contain adiponectin too. This works with resveratrol to combat obesity, insulin resistance, and aging. Rapamycin, another constituent, will extends your life if you're a mouse, but hasn't been tested on humans. Grapes are important in traditional herbal medicine, something you'd know if you were attuned to the traditional herbal grape vine! Considered diuretic, they've been eaten to relieve urinary tract irritations and decrease the urine's acidity. They're supposed to sooth inflamed tissues and promote healing. Some European health spas promote grape "cures." Clients eat only grapes for days. This is definitely beneficial to the owners of the spas and the grape industry, but hasn't been tested in humans. The grape vine's white sap is a home remedy for weak eyes and floaters, but hasn't been tested for safety or effectiveness. The crushed leaves have been used as a poultice, along with common plantain, for various skin sores. Infusions of the leaves and seeds are astringent, and have been used for bleeding and diarrhea. Native Americans used it for hepatitis and stomachaches.

RECIPE

Fox Grape Jam

Using my standard jam-making method with these especially tasty wild fruits leads to an outstanding result. The water successfully tones down the intensity and sourness of this fruit. If you make this recipe with less flavorful commercial grapes, use grape juice instead.

7 cups fox grapes or other grape species

1 cup water

¼ cup vegetable glycerin

1 tbsp liquid stevia

2 tsp agar flakes or 2 tsp agar powder

1. Simmer all ingredients together for 5 minutes or until the agar dissolves.
2. Test by putting a spoonful in the freezer for a couple of minutes or until chilled. If the texture is too watery, add more agar, cook until dissolved, and test again. If too thick, add more water and test again.
3. Strain out the seeds using a food mill and chill until set.

Yields: 4½ cups

Preparation time: 15 minutes

Cooking time: 10 minutes

Beach Plum
(*Prunus maritima*)

Family: Rosaceae, the rose family

This much sought-after shrub (at least, for anyone who forages) is native to the Northeast and a member of the very large rose family. To no one's surprise, it grows in thickets near coastal beaches and bays, usually in dense stands.

A thornless shrub has many branches, it grows from 3 to 12 feet tall, although around 8 feet is most usual, and its spread equals its height. The reddish-brown bark, streaked with horizontal white lines, has a rough

appearance. Growing 1–2 inches long, the dark green, stalked, finely toothed, oval, alternate leaves are from ½ to 1 inch broad.

In the spring, showy, white, fragrant, long-stalked flowers, each about ½ inch across, bloom in clusters of two to five. The flower has five radially symmetrical petals, plus lots of long red, pink, and white filaments that end in yellow anthers.

The plums ripen in the fall, the thin skin changing from green, red, and purple to blue-black. They're about the size of grape and dusted with a faint, white bloom, a powder you can rub off with your fingers. The dull orange flesh contains a single, large, flattened stone.

For fast collecting, clip or tie a food container to your belt or backpack, or tie it around your neck. When the collecting container is full, transfer the plums to a storage container and gather more plums.

If mosquitoes, which are more common around bays and marshes than near the open seashore, are still around, plan your collecting on a relatively cool, windy day (the wind blows away the mosquitoes) and cover yourself with long pants and sleeves.

Sweet and tart, beach plums are great tasting, raw or cooked. They cook in about 10–15 minutes. Remove the stones with a food mill after cooking, and use the fruit in any kind of dessert.

Beach plums provide vitamins A, C, and potassium, plus various antioxidants, typical of brightly colored fruit, so they may lower your risk of heart disease and cancer. Experiments have shown that eating dried plums will reduce your risk of osteoporosis, but, so far, only if you happen to be a lab animal.

RECIPE

Beach Plum Supreme

A sweet, creamy substrate makes a perfect setting for this delicious fruit.

6 cups silken tofu, drained
¼ cup lecithin granules
8 Medjool (soft) dates, pits removed
2 tbsp walnut oil
4 tsp clear liquid stevia
½ tsp salt
3 cups beach plums or other plums, seeds removed

1. Purée all the ingredients except the plums in a food processor.
2. Stir in the plums.

Serves: 6
Preparation time: 10 minutes

Roses
(*Rosa* spp.)

Family: Rosaceae, the rose family

This large group of plants with familiar flowers and less conspicuous edible fruits that includes trailing, woody canes, shrubs, and climbing vines. They hybridize readily, keeping the botanists busy trying to define species. Armed with curved barbed prickles, they've alternate, feather-compound leaves consisting of three to eleven small, toothed, elliptical leaflets. Most people recognize the radially symmetrical flowers, with five petals, five sepals, lots of stamens and pistils in the center, and the familiar fragrance, no matter the size and color. The oval to round fruit or hip grows up to 1 inch across, beginning hard and green, then softening and turning red-orange, with many tiny, hard, white seeds shaped like teardrops inside.

Here are the two most common and distinct wild species in New York:

1. The multiflora rose (*Rosa multiflora*) is an invasive Japanese species growing 9–15 feet tall. Its leaves consist of seven to nine oval, toothed leaflets, ½–1 inch long. Dense clusters of small, white flowers, ½–1 inch across, have a center with protruding stamens. The abundant hips are small with hardly any flesh, so they're only good as a trail nibble or for making tea. They ripen from mid to late fall and persist into the winter.

   It's very common, growing in sunny and partially shaded habitats, in thickets, along road- and trailsides, in edge habitats and fields, in disturbed soil, and near the seashore. It grows throughout eastern North America, the West Coast states, and British Columbia.

2. The wrinkled rose or beach rose (*R. rugosa*), another East Asian species, is the much better. Coated with dense bristles and thorns, it grows from 4 to 6 feet tall. The dark green leaves consist of five to nine strongly wrinkled leaflets.

   The flower's narrow, spoon-shaped, rose-purple or white petals grow from 3 to 4 inches across, larger than most wild species. The spherical, fleshy fruit, also relatively large, grows up to 1 inch across. Ripening in the fall, it's crowned with sepals, and there's a smooth, green, floral tube underneath.

   This species grows in shrub-like thickets and sandy places, along roadsides, and in fields near the seashore. Landscapers love planting it. It grows wild in northeastern North America and Washington State.

Other rose species have been planted in cultivated places and may escape into the wild, but I've found their fruits bitter and sometimes prickly, not worth eating. Heavy-duty work gloves are good for harvesting from these thorny shrubs. Wrinkled rose hips ripen throughout the fall, while the multiflora rose's fruit ripens toward late fall. The flowers bloom in quantity in late spring, although some wrinkled rose flowers bloom in the summer and fall too.

Rose petals are edible (the center of the flower is bitter). You can add them to salads or dessert dishes. I've never found them to be tasty, perhaps because they're traditionally prepared with white sugar, which I avoid because it's unhealthful. On the other hand, the petals are a major ingredient in Bulgarian cuisine. You should try them and judge for yourself. The fruit of the multiflora rose is ripe when the berries turn deep red and feel soft. They're too small and seedy (rose seeds aren't poisonous, but they're hard and bitter) for recipes, but

they make a good trail nibble and tea, with a sweet, fruity flavor, a little like raspberries. The best way to eat them is to wait until early winter, when they're all ripe. Grab a big handful of the fruit, remove any stems, and stuff the whole mass of fruit into your mouth. The flavor is so good, it's worth having to spit out dozens of seeds after you've swallowed the fruit! Wrinkled rose hips, also ripe when they feel soft, taste like apricots, and they're sweet. They contain pectin, the thickener apples contain, so cooked and puréed, they create the texture of applesauce. They're so good that I spent many an hour splitting them open with a paring knife and laboriously scraping out all the seeds with a grapefruit spoon. It took me only three decades to discover the right way to process them: Steep them in water to cover, just off the boil, for 20 minutes, to make a healthful, delicious tea. (I normally avoid herb teas because they're all diuretics for me, and if ever I try to duck into the bushes, thirty people will follow me to see what I'm going to find!) Once the hips are cool, splitting them open and removing the seeds takes seconds, and the delicious fruit is ready for any kind of sweet recipe—puddings, cakes, cookies, sauces, compotes, jam, fruit soups, ice cream, breads, etc.

Rose hips are a great source of vitamins A, B3, C, E, and K, plus the minerals calcium, manganese, and zinc, as well as pectin, malic and citric acids, fructose, sucrose, bioflavonoids, carotenoids, anthocyanins, catechins, and other polyphenolics. Rose hips' vitamin C was used to cure scurvy long before vitamins were discovered. Herbalists also used rose hips for infections, chest congestion, and bladder problems. Due to the pectin, like applesauce, eating rose hips is good for diarrhea. The fruit has been used to help people digest rich foods. It's also been used to treat arthritis, and it's being researched to combat triple negative breast cancer, which it may also help prevent. Traditional Chinese herbalist use an infusion of the flowers for poor circulation, stomachaches, liver pains, mastitis, dysentery, vaginal yeast infections, and pregnancy. These medical applications haven't been tested scientifically yet.

RECIPE

Hip Jello

Making healthful Jell-O using the rose hips from the wrinkled rose is definitely a hip way to cook!

3 cups wrinkled rose hips

3 cups apple juice

1 tsp agar powder or 1 tbsp agar flakes

1 tsp liquid stevia

4 tsp lemon juice

½ tsp dried peppermint or other mint, ground

1. Place the rose hips in the boiling water, remove from the heat, allow to steep, covered, for 20 minutes.
2. Strain out the fruit and reserve the tea.
3. When cool, remove the flesh from the seeds with your fingers and discard the seeds.
4. Add the fruit and all the remaining ingredients to the apple juice and bring to a boil over high heat. Reduce the heat to low and simmer, uncovered, for 5 minutes or until the agar is dissolved.
5. Purée in a blender if desired, holding down the cover with a dish towel and beginning on low speed, to prevent eruptions.
6. Chill until set

   Serves: 4–6

   Preparation time: 30 minutes

   Cooking/steeping time: 25 minutes

Autumn Olive
(*Eleagnus umbellata*)

Family: Elaeagnaceae, the oleaster family

Other names: Autumn berry, Japanese silverberry, umbellate oleaster

When I first found this invasive East Asian shrub, I was quite suspicious of it. It wasn't in any wild food guides, and although a botanist friend told me the berries were edible, they were astringent and awful tasting.

This all changed when I was hired to lead a private tour in Fort Tilden Park, an abandoned World War II military base in Rockaway, Queens, New York. This was my first year leading foraging tours. I didn't know one-tenth as many species as my daughter did when she was nine, and the seashore habitat in November, when many of warm-weather plants with which I was familiar were gone, was very challenging.

Right away, I spotted dozens of autumn olive bushes, a virtual wild orchard, and figured there'd be no harm in letting people taste them. The

berries were a sensation—sweet and juicy, with a flavor like that of raspberries, currants, and pomegranates! The ones I'd tried previously had simply been unripe, hence their awful flavor.

Now my problem was stopping tour participants from coming to blows over which bush had the best berries. Some people simply prefer sweeter berries, others favor more tart fruit. The moral: before serious collecting autumn olives, try different bushes to see which one has an abundance of fruit that you prefer.

This large, twiggy bush grows from 12 to 20 feet tall, but it's not a tree, as there's no trunk. The bush has a serious case of freckles: The smooth, gray bark, the leaves, and the berries are speckled. Sometimes some of the bushes have thorns.

Lance-shaped to oval, the speckled leaves grow from 2 to 4 inches long and from ¾ to 1½ inches wide. They're dull green above, with wavy, smooth-edged, toothless margins. They're covered with shiny, silvery-white scales beneath. This distinctive lustrous sheen makes the shrub easy to spot from a distance.

The radially symmetrical flowers are very fragrant, as well as tubular, and tipped with four lobes, like the related honeysuckles. About ½ inch long, pale yellow and scaly, they grow clustered in groups of two to five, arising from the leaf axils. They bloom in early spring, after the leaves have appeared.

The flowers slowly morph into dense clusters of spherical, stalked, red berries, around ½ inch across and distinctly dotted with silver. They ripen in autumn, when they become soft and juicy (hard, dry fruits are unripe). Inside are several small, soft, oblong, ribbed, yellowish seeds. The seeds aren't poisonous, and some people swallow them, but I find them unpleasant and spit them out or strain them out when making recipes using a food mill.

The sweet, juicy, fully ripe berries are wonderful raw. Cooked 5–10 minutes with a sweetener and thickener, then passed through a food mill, they're superb in sherbets, sauces, puddings, pie fillings, or virtually any dessert, and you can dehydrate the sweetened pulp to make an outstanding fruit leather.

Look for autumn olives in sandy fields. Like legumes, they can incorporate nitrogen, an essential constituent of protein, from thin air (which is 78 percent nitrogen), so they can thrive in poor, sandy soil, or depleted former agricultural fields, where their competitors are at a big disadvantage, since you need nitrogen to make protein. They can grow in full sun or partial shade. I find endless bushes near the seashore, but you can also find them in disturbed habitats, thickets, cultivated parks, hay fields, and pastures, as well as along roadsides.

This superfood has close to seventeen times as much of lycopene as tomatoes. There are strong indications that this carotenoid helps fight prostate cancer, and may be good for combating and preventing other cancers as well. Beta-carotene, phytoene, and beta-cryptoxanthin are some of the other healthful carotenoids the berries provide. If this weren't enough, eating these

berries also give you vitamins A, C, and E, as well as essential fatty acids, which are very rare in fruits.

Chinese traditional herbalists used a tea of the seeds for lung problems and coughs, although this hasn't been tested by Western medicine yet.

RECIPE

Autumn Olive Purée

Here's how to prepare autumn olives for any recipe. You cook them briefly, then strain out the seeds using a food mill (an inexpensive mechanism that pushes food through a strainer), which holds back the unwanted seeds. Use the purée, which you may thicken and sweeten, in any kind of dessert.

8 cups autumn olive berries

1. Bring the berries to a boil in a heavy saucepan over medium heat, stirring often.
2. Reduce the heat to low and simmer, covered, for 5 minutes, stirring often.
3. Pass this through a food mill to remove the seeds.

Makes 3½ cups

Preparation/cooking time: 20 minutes

RECIPE

Autumn Olive Sherbet

This fruit is so tasty, it's no wonder it makes an outstanding sherbet, frozen with a few complementary ingredients, such as strawberries, which go especially well with autumn olives.

¾ cup apple juice

¾ cup pomegranate juice

½ cup autumn olive puree (see above)

6 tbsp raw pine nuts or cashews

¼ cup vegetable glycerin

¼ cup lecithin granules

¼ cup grape seed oil

1 tbsp liquid stevia

¼ tsp salt

¼ tsp orange extract

⅛ tsp cinnamon

1¾ cups strawberries

1. Purée all ingredients except the strawberries in a blender.
2. Add the strawberries and blend on low speed until the strawberries are just chopped.
3. Freeze in an ice cream machine according to the manufacturer's directions.

Yields: 4 cups

Preparation time: 10 minutes

Freezing time: 2–3 hours (varies)

American Persimmon (*Diospyros virginiana*)

Family: Ebenaceae, the ebony family or the persimmon family

Other names: Common persimmon, date plum, simmon

This tree may be as small as 15 feet tall, or as tall as 100 feet in height. The slender trunk often grows spreading droopy branches and sometimes forms a narrow, rounded crown. The thick, blocky, dark gray bark, divided into mosaic-like squares 1½ inches across, is characteristic of the ebony family, of which this is the northernmost member.

The simple, toothless, elliptical, alternate leaves grow up to 6 inches long and 3 inches wide. The tips and bases are pointed, the upper surfaces are shiny, and the undersides are light green.

Fertile flowers grow on female trees only. They're bell-shaped, pale yellow, short-stalked, and fragrant. About ¾ inch long, these solitary flowers produce both male and female parts, with four petals and eight stamens. Male trees

grow only sterile but similar flowers, around ⅓ inch long, in clusters of two or three, with sixteen long stamens—the male parts.

The spherical fruit, 1–2 inches across, grows on female trees only and is orange throughout, but discolors to yellowish-brown. Brown and leathery, four sepals surround the fruit's base. Inside are one to eight large, flattened, hard, brown seeds.

Wild persimmons grow in upland forests and piney woods, on rocky hillsides, in bottomland swamps, along stream banks, in fields, on dry scrublands, along the edges of fields, and in parks. This native tree grows wild in southeastern North America up to Long Island, New York, but it's planted in parks and botanical gardens further north.

Collect the persimmons from the ground or shake the smaller trees. Pack the delicate fruit into food containers, keeping the ripe ones, which you store in the refrigerator, separate from the unripe ones, which ripen at room temperature. You can speed this up by storing them with apples, which give off the ripening hormone—ethylene gas.

You can gather the leaves for tea from when they first appear, in the spring, until they turn color and fall to the ground. The fruit ripens in early fall on very few trees and from mid to late fall on most.

When it's soft, discolored, blotchy, and ugly, this is an especially delicious, sweet, pulpy, and filling fruit. Carl Linnaeus wasn't kidding when he named the genus *Diospyros*, fruit of the gods. Store-bought Asian persimmons are quite good, but they're insipid compared to our native species.

Don't eat unripe or partially ripe fruit, which is so astringent, you'll feel like you've a mouthful of talcum powder. Amazingly, eating a ripe persimmon right away will cure you completely!

Enjoy the fruit raw or cooked in any dessert, from smoothies to ice creams, and in cakes, pies, breads, puddings, or pancakes. Use a food mill to strain out the seeds, or remove them by hand. Orange and lemon juices, or their freshly grated rinds, are perfect complementary flavors for this divine fruit, which you can also dehydrate or freeze. You can steep the leaves to make a tasty herb tea as well.

American persimmons are high in the calories. They're a great source of vitamins C and D, plus the minerals calcium, phosphorous, and potassium. Persimmon leaf tea is very high in vitamin C as well.

Because of its astringency, Native Americans applied the cut, unripe fruit, which may also be slightly antiseptic, to burns, to stop them from oozing, and to wounds, to stop bleeding. The fruit provides the digestive enzymes papain and bromelain, also found in pineapple, papaya, and digestive enzyme pills, so eating it'll aid digestion.

RECIPE

Simmonola

Wild persimmons cooked into the roasted oats turns this granola into something special. Serve with fresh fruit or raisins.

5 cups rolled oats

¼ cup sesame oil

4 cups American persimmons, or 2 cups store-bought persimmons

14 Medjool (soft) dates, pitted

2 tsp cinnamon, ground

1 tsp powdered ginger

½ tsp nutmeg, ground

¼ tsp salt

5 cups mixed, roasted nuts of your choice

1. Roast the oats in the sesame oil with the salt for 1 hour in a preheated 350°F oven.
2. Meanwhile, remove all the seeds from the persimmons and purée them in a food processor with all the remaining ingredients except the nuts.
3. Thoroughly mix the purée with the roasted oats and continue baking for another 30 more minutes.
4. Stir in the nuts.

   Yields: 10 cups

   Preparation time: 45 minutes

   Cooking time: 90 minutes

Wintergreen
(*Gaultheria procumbens*)

Family: Ericaceae, the heath or heather family

Other names: Teaberry, tea leaf, American wintergreen, checkerberry, boxberry, deerberry

This well-known species is technically a shrub, even though it grows only 3–6 inches tall, because the unbranched, upright, reddish-brown stem is slightly woody. Creeping runners allow this colonial evergreen to form mats, and all parts of the shrub produce its familiar fragrance when injured.

Thick, wavy-edged or slightly toothed, shiny, elliptical to oval, leathery, evergreen, alternate leaves grow clustered at the top of the stems. They're 1–2 inches long and ⅓–¾ inch wide. Although the younger, softer leaves are yellowish-green, the remainder are dark green above and lighter below. Winter weather tinges them with red.

The small, white, five-lobed, bell-shaped flowers grow in twos or threes, ¼–½ inch long, hanging from the upper leaf axils on drooping stalks. They bloom from summer to early fall. Five sepals encircle the flower's base.

Bright red, spherical berries, ¼–½ inch across, supersede the flowers on the drooping stalks. They ripen in autumn and can persist through the winter. Use your fingers to pick the berries or strip off the leaves.

The berries' familiar, refreshing flavor makes them perfect for vegetable and fruit salads, and in fruit dishes, cereals, puddings, jellies, pies, cakes, and sauces, but they take so long to collect, you'll only have enough to use as a minor ingredient or garnish.

You can steep handfuls of the fresh or dried leaves, or berries, in water to cover to make a mild, pleasant-tasting, refreshing tea. Fermenting the leaves and berries in warm water for a few days increases their strength.

Wintergreen berries are a good source of vitamin C, but nutritional analysis is incomplete. However, an infusion of any of the aboveground parts of this plant contains oil of wintergreen, with the same medicinal uses for pain, inflammation, and reducing the risk of heart attacks.

The tea is also considered an analgesic, an astringent, a carminative, a diuretic, a stimulant, a tonic, and an emmenagogue—used internally for delayed, irregular, or painful menstruation and to ease the pain of childbirth. The tea is used as a mouth rinse and gargle. Chewing the leaves or eating the berries has been used for bad breath, to soothe irritated gums, and for canker sores.

Concentrated oil of wintergreen, which you'd have to buy, has been used for a variety of ailments, but it hasn't been tested scientifically. It's dangerous and can cause death if used internally, and rarely even kills people when used externally! That's why Bayer experimented with chemically similar willow extracts in the 1800s and invented aspirin.

RECIPE

Wintergreen Curry

Wintergreen berries make this Thai curry even more exotic tasting.

4 cups soy milk or other nondairy milk

3⅓ cups (2 16 oz. cans) of coconut milk

2 cups veggie beef (available in Chinese speciality stores) or firm tofu, diced

1¼ cup bamboo shoots

1 cup long-grain brown rice

4 celery stalks, sliced

2 carrots, sliced

1 large red onion, chopped

1 mango, chopped

¼ cup Thai curry paste, or to taste

½ tbsp salt, or to taste

¼ tsp clear liquid stevia

1 cup wintergreen berries

1. Bring all ingredients except the wintergreen berries to a boil over medium heat, stirring constantly.
2. Reduce the heat to low and simmer, covered, for 1 hour or until the rice is tender.
3. Serve garnished with the wintergreen berries.

Serves: 8–10

Preparation time: 15 minutes

Cooking time: 60 minutes

Nuts and Seeds

There aren't a huge number of nut and seed species compared to some other wild food types, but there are certainly enough to keep you busy from late summer to fall (and occasionally beyond). They are all very tasty, highly nutritious, and well worth the effort it takes to process them.

Amaranth
(*Amaranthus* spp.)

Family: Amaranthaceae, the amaranth family

Other name: Pigweed

These common annuals have leaves you can eat from late spring to mid-fall and edible seeds that ripen in autumn. Native to the Americas and Eurasia, they commonly grow in full sunlight and partial shade. You'll find them in fields, disturbed habitats, edge habitats, and in cultivated places such as parks.

These coarse-looking, leafy plants bear oval to lance-shaped, long-stalked, alternate, toothless leaves that grow from 1 to 2 inches long. There's no odor. The various species can grow from 2 to 8 feet tall.

Conspicuous, dense masses of tiny, green, inconspicuous flowers, surrounded by hair-like bracts, bloom on cymes in the summer. *Amaranthus*

means everlasting flower. They give way to thousands of tiny, round, black seeds, in the same configuration, in autumn.

Two species commonly grow wild in New York, although similar, edible relatives grow throughout North and South Americas, and a cultivated species with purple-red flower and seed heads, also edible, grows in gardens:

1. Mature common amaranth, tumbleweed, or redroot amaranth (*Amaranthus retroflexus*) has oval, smooth-edged, alternate, long-stalked, medium-sized leaves. *Retroflexus* means bent backward. The tall cymes are densely covered with flowers or seeds. This is an excellent species for harvesting the seeds, and the leaves are great too.
2. Low amaranth, careless weed, or Palmer's amaranth (*A. palmieri*) can creep along the ground or grow upright. It's irregular, alternate, elliptical, long-stalked, smooth-edged, medium-sized, distinctly notched leaves. The spikes of tiny seeds are too small for an effective harvest, but the cooked leaves are especially tasty.

Common amaranth has alternate, oval, stalked leaves and can get several feet tall.

To harvest the leaves, simply strip them off the stems with your fingers. To collect the seeds most effectively, clip off the seed heads and let them dry in paper supermarket shopping bags for a couple of weeks, then release the seeds by rubbing the seed heads over a tray. Blow away the chaff and store the seeds in a jar at room temperature, until you're ready to use them.

The leaves taste like a combination of spinach and string beans. I find them too strong-flavored and bitter to enjoy raw, although other foragers disagree. I like them cooked, using virtually any method, similar to the way people cook spinach or other greens. They're tender after about 10 minutes of cooking. The flavor is like a combination of green beans and spinach.

Although not technically a grain (because it's not in the grass family), you can use the seeds of this pseudo grain like true grains. They're great cooked with real grains or beans. I especially like adding them to oats when I make oatmeal. They cook in about 15–20 minutes.

The leaves are high in beta-carotene, vitamin C, calcium, and iron. The seeds provide vitamins A, K, B2, B6, C, and folate, as well as palmitic, oleic, and linoleum acids, plus the minerals calcium, iron, magnesium, phosphorus, potassium, zinc, copper, and manganese. They're also high in protein, and form complete proteins when combined with grains.

The leaves of low amaranth, which grows to less than one foot tall, are oval, but with a notch at the tip.

Herbalists use the leaves as an astringent. A tea has been used as a gargle for hoarseness, and for diarrhea, excessive menstruation, and intestinal bleeding, although the plant hasn't been tested scientifically.

Cautions:

The leaves slightly resemble the poisonous leaves of black nightshade (Solanum nigrum), although amaranth leaves are much more coarse, and the flowers and berries are completely different. Avoid eating these plants where

the soil is contaminated by poisonous nitrates, caused by misuse of agricultural fertilizers.

When Hernán Cortez conquered Mexico, he outlawed the cultivation and use of amaranth. Because it makes so many seeds, the Aztecs considered it as an herb for fertility and used it in ritual human sacrifices. Cortez didn't like this, although at the same time, back in Spain, people were being burned at the stake by the Spanish Inquisition for crimes as innocuous as being Jewish.

So Cortez made amaranth a Schedule II controlled substance, then burned the amaranth fields for good measure, since the resulting starvation made it easier to steal the Aztecs' gold. So before picking amaranth, look around first, and make sure Cortez isn't watching!

Lamb's quarters (see p. 127), which also has edible leaves, looks a little like amaranth, but the leaves are diamond-shaped and their undersides are whitish. Confusingly, both plants are sometimes called pigweed.

RECIPE

Mulberry and Amaranth Porridge

Here's an update version of the classic Scottish breakfast dish, with the addition of wild berries and wild seeds—which would make The Three Bears so proud that they'd be willing to share their cereal with Goldilocks!

2 tbsp grape seed oil or other light oil

1 cup steel-cut oats

¼ cup amaranth seeds

1 quart soy milk, nut milk, or other vegan milk

2 tsp clear liquid stevia

1 tsp cinnamon

1 tsp vanilla extract

¼ tsp orange extract

¼ tsp almond extract

¼ tsp salt

1 large green apple, chopped

1½ cups red mulberries (see p. 155) or other berries

⅔ cup raisins

¼ cup lecithin granules (optional)

¼ cup oat bran (optional)

1. In a saucepan, cook the oats and amaranth in the oil over medium heat for 5 minutes or until fragrant, stirring often.
2. Add all the remaining ingredients except for the lecithin and bran. Bring to a boil over medium heat, stirring constantly.
3. Reduce the heat to low and simmer, uncovered, 30–45 minutes or until the porridge is thickened and soft.
4. Remove from the heat and allow to set, uncovered, for 15 minutes.

Serves: 6

Preparation time: 15 minutes

Cooking time: 35–50 minutes

Hickories
(*Carya* spp.)

Family: Juglandaceae, the walnut family

This is a group of common woodland trees that's mainly native to eastern North America, although one of the twenty-five species grows in China. Many species produce great-tasting nuts, some drop awful-tasting ones, but none is poisonous. With the exception is the pecan (*Carya illinoensis*), which grows only in the Deep South, they don't produce good crops every year, so no one can afford to grow them commercially. Hickories grow from 60 to 180 feet tall. They have fragrant, alternate, feather-compound leaves consisting of five to seven opposite, lance-shaped to elliptical, toothed leaflets that get from 8 to 30 inches long. They turn yellow in autumn.Tiny, green male flowers hang from long catkins in springtime in the spring, when small spikes of female

flowers bloom, concealed at the branches' tips. In the fall, the trees drop nuts that are packed inside distinctive, spherical, four-parted, green husks, which grow ½–1½ inches across.

Here are the species you're likely to find in New York State:

The shagbark hickory (*C. ovata*), a common species, is a favorite among foragers. It usually grows from 60 to 120 feet tall, but may reach a height of 180 feet, with a straight, cylindrical outline. The light gray bark looks distinctively shaggy when mature, with long, flat, vertical slabs curling off the trunk, forming long strips, easily recognizable even in the winter. The leaves grow from 8 to 14 inches long, usually with five to seven apple-scented leaflets, each 4–6 inches long and about 2 inches wide. Those toward the leaf base are the smallest. The catkins reach from 4 to 6 inches long, while the female flowers grow on short spikes ⅓ inch long. The nuts grow singly or in clusters of two or three, in a thick, spherical husk 2 inches across. The husk turns from green to yellow-green, then to black. A thin-shelled, light tan, ovate nutshell, 1–1½ inches across, surrounds a sweet, especially tasty nut that's not exceptionally difficult to crack or to extract from the shell. Less common is the similar shellbark hickory (*C. laciniosa*). It's less curly bark and nine to seventeen leaflets per leaf. The mockernut hickory (*C. tomentosa*) usually reaches 50–60 feet in height, but sometimes gets 100 feet tall. The trunk is straight and the crown is rounded. The dark-gray, tight, furrowed bark creates a diamond pattern, and there's dense hair under the twigs. The leaves grow 6–12 inches long. The leaf axis is hairy underneath, as are the five to nine leaflets, which grow up to 8 inches long. The ovoid to ellipsoid nut grows 1½–2 inches long, with a thinner husk than the shagbark's, but with a thick, light tan, four-ribbed, hard shell. In fact, *mockernut* means heavy-hammer nut in Dutch. The nutmeat tastes good, but is hard to remove from the labyrinthine shell. The pignut (*C. glabra*) is also delicious, but only if you're a pig. It usually grows from 60 to 80 (sometimes 100) feet tall and 10 to 40 inches wide. The cylindrical crown is 25–35 feet wide. The gray-brown, shallow-ridged, furrowed bark forms a distinctive diamond pattern, making the tree easy to identify at once. The leaves, which grow 8–12 inches long, have five to seven finely toothed, hairless, lance-shaped leaflets. The terminal leaflet is the biggest, 2½–5 inches long and 1–2 inches wide. The male catkins grow in groups of

threes, from short spurs near the young twigs' tips. The thin, dark brown, pear-shaped husk gets 1–2 inches long and close to ¾ inch across. The nut grows about 1 inch across, with a thick, flattened shell. Other foragers claimed to have found pignuts that taste good. The ones I've found have always been even worse than my middle school's hot lunch! The bitternut or yellowbud hickory (*C. cordiformis*) is just as bad, and very common. It grows from 60 to 100 feet tall, with a cylindrical, irregular crown up to 25 feet wide. The trunk grows from 1½ to 3 feet across, with shallowly ridged, gray bark. The powdery, sulfur-yellow leaf buds make this species distinct. The 3–5 inch long catkins cluster in threes. The leaf is 7–14 inches long, with five to nine sharply toothed, stalkless leaflets. The four narrow ridges of the husk extend from the outer tip inward, between ½ and ⅓ of the fruit's length, so only the bottom half of the thin husk, which grows from 1 to 1½ inches across, splits open. The rounded, beaked, cream-colored, smooth, thin-shelled nutshell is 1 inch in diameter. Inside you'll find a reddish-coated kernel. The best thing to do with it after you've shelled it is to throw it away!

Hickory trees grow in full sunlight or partial shade, in a wide variety of woodland habitats. The nuts ripen from early to mid fall, but you may still find a few fresh ones in late autumn. They only produce a good harvest about one out of every two or three years, so stock up when you can. Just bag the nuts from the ground (unless you care to climb up a 100 foot tall tree!). Nuts with green husks are least likely to have insect damage as you approach the end of the season. You can remove the husks using a screwdriver. Crack the shells open with a heavy-duty nutcracker that you can buy online, the best implement. Otherwise, use a vise or a large rock. A nutpick (also called a lobster pick) makes removing the nutmeat much easier. You can store hickory nuts in paper bags until the husks dry and open, releasing the mature nuts. Unshelled nuts keep indefinitely in this state. Once shelled, you can store them refrigerated in closed containers for a few weeks, or freeze them. Use them like any other nuts, raw or roasted. They're great in pies, cakes, puddings, granola, ice cream, salads, or stuffing. People have also tapped shagbark hickory trees,

like maple trees, in late winter, boiling down the sap to 1/40th its volume and making syrup with a smoked hickory flavor, although this is too much unhealthful processing for me.

Hickory nuts score high in nutrition, even compared to other wild foods. Two thirds of the nut's dry weight is a high-quality, easily digestible oil that includes heart-healthy essential fatty acids. The nuts are high in calories, important to wilderness survivalists, but not for people trying to lose weight. They also provide protein, carbohydrates, vitamins A and C, iron, phosphorus, potassium, and trace minerals. This tree isn't currently used in herbal medicine. In the past, though, the new growth of young leaves was steamed to make an inhalant for headaches, and the cambium was been used for arthritis, internally as a decoction, and externally as a poultice, but there's no evidence showing that any of this works.

RECIPE

Pineapple Hickory Bake

Hickory nuts topping a cream-covered pineapple layer and baked over bean-thread noodles are as tasty and decadent as it's unusual.

Bottom Layer

2 cups bean thread noodles, boiled for 5 minutes in lightly salted water with a dash of sesame oil

Middle Layer

2 cups fresh pineapple, diced

½ tsp liquid stevia

½ cup Chocolate Coating

Ingredients to Blend

3 cups silken tofu, drained

8 Medjool (soft) dates, pitted

4 tsp grape seed oil or any other light oil

1 tsp cinnamon, ground

1 tsp lemon extract

½ tsp fresh ginger or ¼ tsp powdered ginger

Top Layer

1 cup hickory nuts or chopped pecans

1. Place the noodles in an oiled casserole dish or baking dish.
2. Mix the middle layer ingredients together and place over the noodles.
3. Purée the ingredients to blend together in a food processor and spread this over the middle layer.
4. Sprinkle the hickory nuts on top.
5. Bake for 45 minutes in a preheated 375°F oven.

Serves: 6–8

Preparation time: 20 minutes

Cooking time: 45 minutes

RECIPE

Chocolate Coating

Here's a great way to add an exotic chocolate flavor to any recipe, from desserts, to roasted chips made with large, edible wild leaves.

2 cups white (mellow) miso

1 cup sesame oil or peanut oil

½ cup pine nuts

6 oz. unsweetened baker's chocolate, melted in a double boiler

2 tbsp liquid stevia

8 pitted Medjool (soft) dates

½ tsp coffee extract

1 tsp common spicebush berries, or ½ tsp allspice, ground

Purée all ingredients together in a food processor.

Makes 4 cups

Preparation time: 10 minutes

Hazelnuts
(*Corylus* spp.)

Family: Betulaceae, the birch family

Other name: Filbert

American hazelnut (*Corylus americana*) and beaked hazelnut (*C. cornuta*) are two similar species, and their spreading, smooth-barked gray shrubs reach a height of 10–20 feet, with a spread of 8–13 feet. They often grow in dense stands. The native species has rough hairs on the twigs and leafstalks that the European species lacks.

Growing from 2 to 6 inches long, the simple, alternate, toothed or double-toothed leaves may be rounded or nearly heart-shaped.

Considered one of the first harbingers of spring, the catkins mature close to the end of winter. Yellow brown and 1–4 inches long, these male flowers grow, evenly spaced, in clusters of twos or threes along the branches, dispersing

their pollen into the wind. The crimson female flowers are less than ¼ inch across. Their bright red pistils spread in all directions, from the tip of the ovate ovary.

The nuts ripen in late summer. Inside shells are enclosed by paired husks that grow from 1 to 2 inches long. The native species' husks are blunt and open-ended. The beaked hazelnut's husks are long and pointed.

Inside each husk is a spherical, thin-shelled, white nut, growing up to ½ inch across, and lies wrapped in brown, papery coating.

Hazelnuts grow in thickets, dry to moist woodlands, forest margins, roadsides, fence rows, under power lines, and in other disturbed areas. The American hazelnut ranges throughout temperate eastern North America, while the beaked hazelnut sticks mostly to the northern part of those parameters.

Harvest these nuts by hand, wearing work gloves for protection from the bristles, in late summer and early autumn, and try to get them before the

squirrels and other critters who also bought this book do so! You can gather them somewhat underripe and let them mature in a paper bag.

Use these nuts like store-bought ones. Crack them with a nutcracker and add them, raw or roasted, to any dish that calls for nuts. You can also grind them into meal and use them, along with whole-grain flour, in baking. They make a great nut butter too, ground in a food processor with oil and some salt.

Hazelnuts provide vitamins A, B1, B2, B3, B6, C, E, and K, as well as alpha-carotene, beta-carotene, folate, pantothenic acid, and choline. They're rich in the minerals calcium, copper, iron, manganese, phosphorus, potassium, selenium, and zinc.

The shrub is also medicinal. The leaves and cambium contain the phytochemicals hamamelitannin and proanthocyanidins. The nuts contain 3-caffeoylquinic acid, 5-caffeoylquinic acid, *p*-coumaroyl tartaric acid, myricetin, quercetin, gallic acid, and kaempferol. Extracts have been shown to have a beneficial effect on the heart, and another constituent, doxorubicin, is protective against cataracts.

Herbalists apply extracts of the cambium and leaves to skin irritations, sunburn, diaper rash, scalds, bedsores, eczema, and insect bites. They give it internally for sore throat and diarrhea.

RECIPE

Harzipan

Here's a hazelnut confection analogous to a German almond paste confection called marzipan, but with healthful ingredients instead of refined sugar, and the additional flavors of hazelnuts and common spicebush berries.

1¾ cups raw hazelnuts

½ cup silken tofu, drained

1 tbsp almond oil

1 tsp clear liquid stevia

1 tsp hazelnut extract (optional)

½ tsp vanilla extract

½ tsp common spicebush berries, ground, or ½ tsp allspice, ground

¼ tsp salt

3 tbsp carob powder

1. Grind the hazelnuts into a fine meal in a food processor.
2. Add all remaining ingredients except for the carob powder and grind into a paste.
3. Roll into balls 1 inch across and roll the balls in carob powder.

Yields: 24 balls

Preparation time: 30 minutes

Oaks
(*Quercus* spp.)

Family: Fagaceae, the beech family

Most of us take these familiar trees for granted, but they've been an important food source for all traditional First Nations people for millennia. Their acorns are quite good and very enjoyable, if somewhat time-consuming to prepare. Oak trees, which grow from 12 to 120 feet tall, have long, simple, alternate, lobed leaves and distinct, ovate, thin-shelled, cupped acorns. The leaves are blunt-edged in the white oak group, the easiest ones to prepare. Long, narrow, drooping catkins with tiny, yellow male flowers hang from the twigs in early spring, before the leaves mature, releasing pollen into the air. Then the catkins all fall to the ground. The female flowers, which grow on much smaller spikes, usually escape notice. White oak acorns take one year to mature, and the insides of the nutshells are hairless. Red oak acorns' nutshells are hairy inside, they take two years to mature, and the leaf tips are pointy.

The white oak tree (*Quercus alba*) is the flagship species of the white oak group. It grows from 60 to 120 feet tall. The bark is light gray, a little furrowed, slightly scaly, and flat ridged. The crown is rounded and the branches spread horizontally. The leaves grow from 5 to 9 inches long and from 2 to 4 inches wide. They have seven to ten shallow or deep, even, rounded lobes. The leaves are dark green and glossy above, and sometimes slightly downy underneath. Male catkins grow 2–4 inches long. The female flower is a single, short, reddish-green spike. The long-ovate, stemless acorns, which become light brown when mature, usually grow less than 2 inches long. The bowl-shaped cup covers around ⅓ of the acorn. This species can hybridize with its relatives, which can make exact identification difficult, but they're all good edibles. Occasionally, other members of the white oak group that don't grow wild are planted in parks. These are usually relatively easy to process as well.

The chestnut oak or rock oak (*Q. prinus* or *Q. montana*) is a medium-sized member or the white oak group that often grows from 60 to 70 feet tall, with a spread as wide as its height. The thick, reddish to dark brown bark is deeply furrowed, like alligator hide, with long, tight ridges. The coarsely toothed, elliptical to oblong leaves have wavy margins, like chestnut trees' (*Castaneus* spp.), 5–10 inches long and 3–4½ inches wide. They're dark green above and light green, with a slight fuzz, below. The acorns grow individually or in pairs, reaching 1–1½ inches long. The cup covers ⅓ of their length. Like the white oak, they require little leaching. Members of the red oak group (*Quercus* spp.), unlike those in the white oak group, have lobes with pointed tips. They usually take much more time and effort to process.

Oak trees grow throughout most of eastern North America, in forests, thickets, cultivated parks, and along neighborhood streets. White oak nuts are in season at the very end of the summer and in early autumn. Sometimes red oak acorns, usually too high in tannin for practical use, are good to go at the end of the winter, leached of most of their tannin under the snow. You can gather the immature leaves or white oaks for wine-making in mid-spring. To harvest, just pick up the acorns from the ground soon after they've fallen. Discard any with insect holes, especially if you're a vegetarian (insect-infested nuts also float in water)! Some years produce much better harvests than others.

Boil the acorns for 1 minute to loosen their shells. You can buy acorn shellers online. Otherwise, split the acorns with a paring knife, and either peel them using your fingers or remove the nutmeat with a nutpick or grapefruit spoon. The tannin, which is water soluble and bitter, and can cause health problems, must be removed. Chop the nutmeat in a blender with water to the size of rice grains, then soak the nutmeat in room temperature water, changing the water occasionally, until the nutmeat no longer tastes bitter. This can take from one to many days.

For red oak acorns, this can take many weeks. Native Americans dropped these acorns, in sacks weighted by rocks, into streams, or buried them, then retrieved them weeks later. A mesh bag in the top tank of a flush toilet, where the water is clean, will do the same thing. If the tannin turns the toilet brown, you can always say you forgot to flush! A faster way is boiling the acorns for

hours in successive changes of water. However, this removes the oils, and the gelling quality of cold-leached acorns, alright if you're going to dry the nutmeat and grind it into flour, but inferior for most other uses. Another method is to grind the nutmeat with water in a blender, at high speed, for 1–2 minutes, pouring the pulp into a dishtowel-lined colander and running water through this, while stirring with a wooden spoon, for about 5 minutes, or until the water runs clear and the acorns no longer taste bitter. Then wring out the excess water.

Leached acorns have a mild, nutty flavor, a little like chestnuts, but not as sweet. Native Americans added them to soups and stews, or dried them and ground them into a non-rising flour. Korean people use their gelling properties to make a jelly called dotorimuk, which they serve in Korean restaurants. You can also roast leached acorns like other nuts, in oil, with salt or seasonings. They're great in mock meat loaf too. You can also dehydrate them, then grind them into flour. Roasted until black, acorns have also been used as a coffee. You can also use immature white oak leaves to make an outstanding wild wine.

Acorns are a good source of protein, fat, vitamins B3 and B6, folate, and pantothenic acid, plus the minerals calcium, magnesium, potassium, zinc, copper, and manganese. They usually contain the bitter polyphenolic compound, tannin, plus gallic acid and ellagitannin. Astringent, antiseptic, and antiviral, tannin has both anti tumor and anti carcinogenic activities. Although it's present in commercial Chinese tea, long-term intake is harmful, causing constipation and blocking calcium absorption. Prolonged high doses can cause kidney damage. Be sure you've removed it from the acorns you're going to eat.Native Americans and Europeans drank a decoction of the white oak cambium for diarrhea. They used it as a gargle for sore throat and as a douche for yeast infections. It's supposed to make a good wash for skin ulcers, ringworm, and other fungal skin infections. A cold compress is used for cuts and burns. People also inhaled the dried, powered cambium, like snuff, for nosebleeds.

RECIPE

Acorn Burgers

Here's a great-tasting, high-protein veggie burger, courtesy of common white oak acorns.

10 tbsp olive oil

1 bell pepper, chopped

3 celery stalks, chopped

5 scallions, chopped

4 cloves of garlic, chopped

¾ cup acorn flour (made from leached, dried, ground acorns, and available from Korean food websites)

2 cups oat flour

¾ cup lecithin granules

¼ cup flaxseeds, ground

¼ cup arrowroot

¼ cup white (mellow) miso

2 tbsp fresh basil, chopped

1 tbsp brewer's yeast

2 tsp oregano, ground

1 tsp celery seed, ground

¼ tsp black pepper, ground

1. Sauté the bell pepper, celery, scallions, and garlic in 2 tbsp of the olive oil for 10 minutes.
2. Mix this together with the remaining ingredients, except for the remaining olive oil.
3. Shape into 12 patties.
4. Fry for 5–10 minutes or until the undersides are lightly browned in the remaining olive oil.
5. Flip and fry the other sides until lightly browned.
6. Drain on paper towels.

Yields: 12 burgers

Preparation time: 30 minutes

Cooking time: 20 minutes

Black Walnut
(*Juglans nigra*)

Family: Juglandaceae, the walnut family

Other name: Eastern black walnut

This large tree is one you won't want to miss. It's large and hard, so if you do miss it and walk into it, you'll injure yourself! Also, it produces large crops of exceptionally good nuts.

It grows 50–130 feet tall, with a trunk 1–4 feet in diameter, a crown spread of 70 feet, and no branches near the bottom. The dark brown, deeply furrowed, ropey-looking, ridged bark creates diamond patterns. Wooly, whitish buds, from ⅓ to ½ inch long and rounded at the tips, develop at the tips of the stout, smooth, greenish-brown to gray twigs in late summer.

Alternate, feather-compound leaves, 1–2 feet long, open in mid to late spring. They consist of ten to twenty-four lance-shaped, narrow, finely toothed, distinctly lemon-scented, unevenly paired leaflets. They're 3–5 inches long and about 1 inch broad, and they've pointed tips and uneven bases. Pale green

above and downy below, they become yellow in autumn. The largest leaflets grow near the leaf's center, and unlike the related butternut (*J. cinerea,* an edible relative with spindle-shaped nuts), there's usually no terminal leaflet.

Inconspicuous male flowers grow on long, slender, green catkins, 3–4 inches long, in the spring. They dangle from the branches and release pollen into the air before the immature leaves become large enough to block this. At the tips of the branches at the same time also grow small, inconspicuous, green, pear-shaped, Y-tipped female flowers, in terminal clusters of two to five.

Ripening mainly in mid-autumn (a few nuts usually fall early, and you can sometimes find nuts that haven't rotted inside in late fall), the spherical, lemony-scented, semi-fleshy fruits, 2–2½ inches across, grow singly or in tight groups of up to four. Don't mistake these delicious foods for tennis balls!

As autumn progresses, the thick husk turns yellow, then blackens as it decomposes and gets consumed by maggots. Inside the husk, a hard, furrowed

black nutshell, 1½ inches across, encloses the bilaterally symmetrical nutmeat. It resembles the nutmeat of the store-bought English walnut (*Juglans regia*). Walnut shell fragments persist on the ground under the tree all year, making identification certain.

You can find black walnut trees on rich, well-drained soil, in deciduous woods, on bottom lands and floodplains, sometimes along residential streets, and in urban and suburban parks. It's native to the eastern half of North America and Utah, and similar edible relatives grow in the Southwest and on the West Coast.

Remove the husks by stomping on them with your shoes, or insect larvae in the husks will eat through the nutshell and consume the nutmeat.

Caution: Wear rubber gloves if you don't want a dye in the husks to stain your hands, and never touch the husks bare-handed if you're a public official. They contain substances that kill parasites.

In the field, you can crack the shell with a heavy rock. Do this on a level pavement or use a flat rock as an anvil, or the nut will roll away. You can also buy a heavy-duty nutcracker online to use at home. A nutpick or lobster pick makes removing the nutmeat easier.

You can air-dry the de husked nuts in a paper shopping bag. After a couple of weeks, they won't stain your fingers, and the nutmeat, which tastes like walnuts and wine, matures and gets even better. The nuts last indefinitely in the shells, but become rancid in a few weeks if you don't freeze them after they've been shelled.

You can use black walnuts like other nuts, raw or roasted, but they're so strong-tasting, they're best used sparingly in recipes, lest they drown out all the other ingredients. I use one part black walnuts with three parts store-bought walnuts when I cook or bake with them.

People have allegedly pickled the small, immature nuts that fall from the trees in the summer, but I've never gotten this to work. They've also tapped the trees, like maple trees, in the winter to make syrup, but you've to boil the sap, outdoors, to ¼th its volume to make the sugary end-product.

Black walnuts provide protein and carbohydrates; the fatty acids linolenic, linoleic, palmitic, stearic, and oleic acids; vitamins B1, B2, B3, and E; and the minerals iron, magnesium, and potassium.

They also contain alkaloids with anticancer properties, but research is incomplete. A decoction of boiled husks, which contain tannin, juglandin, juglone, and juglandic acid, has been used internally to kill parasites. A compress of the decoction has been used for athlete's foot, ringworm. and

other fungal infections of the skin. It's also been used to treat herpes and eczema, although there's no convincing evidence that it's effective.

A decoction of the cambium has been used for diarrhea and to stop milk production, but it can cause vomiting, and isn't safe. And an infusion of the leaves has been used to lower high blood pressure, something that should be tested scientifically with a blood pressure cuff.

RECIPE

Black Walnut Ambrosia

This creamy fruit pudding is all the better with the inclusion of black walnuts.

2 small wild apples or 1 Granny Smith apple, grated
1 peach, chopped
¼ cup black walnuts, English walnuts, or other nuts, chopped
¼ cup raisins

Ingredients to Blend

½ cup (or 6) pitted Medjool (soft) dates
3½ cups silken tofu, drained
10 strawberries, sliced
¼ cup lecithin granules
1 tbsp white (mellow) miso
1 tbsp clear liquid stevia
1 tbsp sunflower oil or any light vegetable oil
¼ tsp salt
¼ inch vanilla bean, scraped, or 1 tsp vanilla extract

1. Chop the dates in a food processor with the chopping blade or chop by hand.
2. Purée the ingredients to blend in a blender.
3. Stir in the fruits and nuts.

Serves: 4–6
Preparation time: 10 minutes

Ginkgo
(*Ginkgo biloba*)

Family: Ginkgophyta, the ginkgo family

Other name: Maidenhair tree

This is one of the most unusual and spectacular edibles of all. The only extant member of its phylum (one of the twelve top-level subdivisions of the plant kingdom), it's native to Laurasia, a supercontinent that included all present-day Northern Hemisphere continents before it split into today's continents. The ultimate survivor on this planet, the oldest fossils were found from 270 million years ago, preceding the dinosaurs by 39 million years. Some trees alive today are thought to be 2,500 years old, and six of them withstood the atomic bombing of Hiroshima! The tree even survived the asteroid impact that wiped

out the dinosaurs, probably in the form of seeds that lay dormant until conditions improved, but it was thought to have finally met its end at the hands of Ice Age glaciers. Scientists, who knew the tree only through its fossils, were astonished when, in 1690, German botanist Engelbert Kaempfer found the tree in Japanese temple gardens, cultivated by the monks who'd rescued the tree from extinction in China in ancient times. This is speculative, but I'm willing to bet that it may even survive the presidency of Donald Trump! The botanical sensation of the eighteenth century, this living fossil was planted all over the world, and Johann Wolfgang von Goethe even wrote a poem about it. Having outlived all its diseases, it thrives, planted as a street tree and in parks, throughout the temperate world. It needs full or nearly full sunlight.

With furrowed, gray bark, this straight, slender, sparsely branched, columnar tree grows from 65 to 115 feet tall. Distinctive short, knobby spur shoots make the tree look like it's bullet-shaped twigs, making even winter identification a snap. The fan-shaped leaves, which are alternate and grow clustered on the spur shoots, are also unique. Many are notched or lobed, accounting for the specific name *biloba*. They grow from 2 to 4 inches across and turn saffron yellow in autumn. Raised, nearly parallel veins fan out from the leaf base, repeatedly branching, but never reconnecting. Other broad leaves evolved from ancestral needles that expanded. Only the ginkgoes and its extinct relatives formed broad leaves from needles that knit together, like the webbed feet of ducks. The wind-pollinated flowers are tiny and inconspicuous, hanging from the spur branches in short, slender clusters. They appear in early spring. The orange, spherical, fleshy, long-stalked, fruit ripens in autumn, growing to nearly 1 inch across. It contains butyric acid, first chemically characterized from rancid butter and also present in decaying flesh and vomit. It may have made herbivorous dinosaurs think there'd been a kill and predators could still be around, repelling the plant eaters; or perhaps some scavengers liked the rotten smell, as vultures do today, eating the fruit and dispersing the seeds through their droppings. What kind of animal would be content eating such awful food? It must have been an English dinosaur! A single, thin, light brown, woody, seamed, almond-sized nutshell inside the fruit encompasses a soft, greenish, almond-sized, ovate kernel, itself wrapped in a brown, papery membrane. This seed is the part you eat. Most modern trees are

hermaphrodites, with male and female organs on the same tree, making pollination more efficient. But this primitive species has separate male trees, which are taller and more slender, and female trees, which are shorter and wider. Unlike more familiar beings, it's the female of this species that has the nuts!

Ginkgoes begin to ripen and fall to the ground in mid-autumn, although many trees don't drop fruit until late fall—the peak of the season. The crop diminishes, but you can still gather nuts from under some trees in the winter. If there's a cold winter, the nuts freeze, the smelly fruit vanishes, and the nuts remain good into early, or even mid-spring, when you find nothing under most trees, and a bumper crop under a few. The fruit is poisonous, and a very small minority of people get a rash from handling it, as it contains minute amounts of the same toxin as is in poison ivy (Toxicodendron radicans), so wearing rubber gloves, which also keep your hands from stinking, is an option

to consider. Gather fruits or nuts from the ground. Those clinging to the branches are unripe). Remove and iscard the fruit as you gather. One of my friends, in an unsuccessful effort to hurry to the NYC subway before rush hour, didn't bother removing the fruit. Not only did she get a seat in a fully packed train, but by the time she reached her destination, she had the whole subway car to herself. Even the homeless had fled!

The raw nuts are poisonous. Rinse off the nuts in a colander, then bake them (Asian people boil them, but I think baking is better) in a preheated 300°F oven for 35 minutes, stirring occasionally. Be prepared for a smelly kitchen. Place the cooked nuts on a towel or rag, and gently hit the shells with an empty water glass or mallet, with just enough force to crack the shells without shattering them. Enjoy the shelled nuts as is, or add them to soups, casseroles, stir-fry dishes, grains, beans, casseroles, or any savory recipe. Soft and chewy, they taste like a combination of green peas and limburger cheese. Traditional Japanese cooks will tell you not to eat more than seven ginkgoes at a serving. You should only eat small amounts of ginkgoes the first time, and slowly increase the serving, in case you've a sensitivity to this food. Eating huge quantities, especially in children, has been documented to cause poisoning by 4-*O*-methylpyridoxine. I've never seen this happen, and the convulsions it causes are cured by vitamin B6, but the best approach is to enjoy this food in moderation.

Ginkgoes provide vitamins C, B1, B3, B6, and folate, plus the minerals copper, iron, magnesium, phosphorus, potassium, sodium, as well as calories, protein, and flavonoids. A traditional medicinal plant, an alcohol extract of the leaves contains antioxidant and anti inflammatory ginkgolides, heterosides, and vasodilators. Reputedly good for memory, it's prescribed by doctors in Germany, but a recent mathematical compilation of many studies convincingly shows that it doesn't work for healthy people, or for victims of Alzheimer's disease. This contradicts my own experiment, showing that it does work: One whiff of the fruit and you'll never forget the awful smell! Some research shows that the extract is good for headaches, tinnitus, intermittent claudication, and depression, possibly because it improves blood flow in the arteries and capillaries. It's also used for circulatory problems, asthma, toxic shock syndrome, bleeding, bruising, heart and kidney disorders, glucose intolerance,

and edema. The extract contains an analog of platelet-activating factor, intervening in the formation of arterial plaques. It also is supposed to destroy free radicals, which might make it lower the risk of cancer. However, other research shows that it doesn't work for anything, and that using it medicinally can have bad results. Obviously, the final word isn't in yet. In Chinese folk medicine, the fruit is applied as a dressing for wounds. An infusion of the fruit is used for indigestion and as an expectorant for asthma, bronchitis, and tuberculosis. But the fruit is poisonous, both internally and externally, and it's quite repulsive, so I think you'll get even more benefits by avoiding it! Eating ginkgo nuts is considered very healthful in China and Japan (as well as on my foraging tours). It's supposed to assist digestion and reduce the effects of excessive alcohol. The nuts could have similar benefits to the leaf extract (or none), but this hasn't been tested.

RECIPE

Ginkgo Stir-Fry

Ginkgo nuts add their unique flavor to what could otherwise be a standard Chinese stir-fry. Serve over brown rice or noodles.

⅓ cup sesame oil, or as needed

2 tbsp dark sesame oil, or as needed

3 cups lettuce or other greens, chopped

1 19-oz. package of firm tofu, drained and diced

2 tsp fresh ginger, chopped

4 cloves of garlic, chopped

¾ cup cooked, shelled ginkgo nuts

3 celery stalks, sliced

2 bell peppers, sliced

1 small onion, chopped

Sauce Ingredients

1 cup vegetable stock

1 tbsp arrowroot or kudzu

3 tbsp dark miso

1 tsp salt

1. Purée the sauce ingredients in a blender.

2. Meanwhile, mix the oils and heat 1½ tbsp of this in a wok or frying pan.
3. Stir-fry the ginkgoes for 3 or 4 minutes or until the brown, papery membranes begin to separate from the nuts, and set aside.
4. Add more oil as needed, stir-fry the lettuce for 2 minutes, and set aside in a bowl separate from the ginkgoes.
5. Add another 2 tbsp of the oils and stir-fry the tofu with the ginger for 3 minutes.
6. Add the garlic, stir-fry for another 2 minutes, and set aside with the lettuce.
7. Stir-fry the celery for 3 minutes with more oil and add to the lettuce mixture.
8. Stir-fry the bell peppers for 3 minutes with more oil and add this to the lettuce mixture as well.
9. Stir-fry the onion for 3 minutes with still more oil and also add this to the lettuce mixture.
10. Remove and discard the brown membranes from the now-cooled ginkgoes.
11. Return all ingredients to the wok, stir in the sauce, and bring to a boil over high heat, stirring constantly.
12. Simmer, covered, over low heat for another 10 minutes, stirring occasionally.

Serves: 6

Preparation time: 30 minutes

Cooking time: 20 minutes

Root Veggies

Roots are often plants' storage organs, so food is stored underground in autumn and released to growing aboveground parts in mid-spring. With some exceptions, the time to dig them up is from fall through early spring, with a hiatus during the winter when the ground is covered with snow and frozen, and aboveground foliage has been destroyed. However, global warming is shortening winters and thereby increasing the root season, although each year is different.

Common Evening Primrose (*Oenothera biennis*)

Family: Onagraceae, the willowherb or evening primrose family

Other names: Weedy evening primrose, German rampion, hog weed, King's cure-all, fever-plant, evening star

This native biennial, widespread throughout the NE, first appears in early spring, emerging from a white, fleshy taproot, noticeably pink toward the top, and grows from 2 inches to over 1 foot long. It produces a tight basal rosette of elliptical to lance-shaped leaves the first year. From 2 inches to 1 foot long with ragged edges, they're light green, hairy, and sometimes slightly toothed. Each leaf has a distinct, white midrib, and frosty weather adds reddish tints to the leaves. The rosette is finally destroyed by lots of very icy weather at the end of autumn, but rebounds in early spring of the second year. In mid-spring, it then produces a stout, hairy, erect, light green to reddish stem that reaches 4–7 feet in height. It may be unbranched, or branched near the base. The alternate leaves are similar to the basal leaves, but smaller, and grow in a spiral pattern. The long-stemmed, four-petaled, yellow, radially symmetric flowers grow 1–2 inches across. They're long stemmed, pale yellow, and faintly lemon scented. They grow in terminal panicles from the tops of the branches and open in the evening, attracting moths, then close by noon. The petal bases fuse, forming a long, narrow tube, and the distinctive, four-parted stigma forms an X shape in

the center of the flower. Green sepals droop beneath the flowers. Each flower develops into a hard, woody, cylindrical, flat-topped seed capsule, green at first, growing up to 1½ inches long. It's full of tiny, elongated, hard, reddish-black seeds. This capsule persists through the winter, splitting into four sections.

Common evening primrose grows in sunny places. It's quite at home in poor, sandy soil and does great in fields and dunes near the seashore. You can also find it in parks, empty lots, disturbed sites, prairies, glades, thickets, and along roadsides. The root is in season in early spring, before the stored food is depleted by rapid mid-spring growth of the aboveground parts, and in autumn, when food is stored underground again. The root is good to use all winter, but once the aboveground parts are obliterated by the cold, you can't locate it anymore. Dig it up with a shovel or any other digging implement. In loose sand, you can sometimes just pull it up with your hands. The immature stem of the second-year plant is good to use in mid-spring while it's flexible and the center is tender. Harvest it with a knife or clippers. The leaves are best in early spring and late fall, although you can roast them in the summer too. Just strip them off the rosette. The flowers are in season in the summer and fall, when you can pinch them off with your fingers. The seeds are usable when they turn blackish and harden in the fall. Break open the woody fruit capsule and pour them into a bag.

The taproot is the best part to use, with the most food for your effort, and a complex flavor, like black pepper, and radish, but with sweet overtones, and a mucilaginous, okra-like texture. It slightly thickens soups, stews, and sauces. It may cause loose bowels in some people, if eaten raw in quantity, and it's spicy nature can make the throats of susceptible individuals burn when eaten raw, so it's much better to cook it in any vegetable dish that needs a touch of heat and will benefit from being thickened. It cooks in 15–20 minutes. It can overpower milder ingredients if used in quantity, but easily holds its own in curries, chili, and salsas. I find the tender, young leaves in the center of the young rosette too hairy to enjoy raw, or even cooked in most dishes, but they're fine cooked and puréed in cream soups and cream sauces, my preferred treatment for hairy wild greens, and you also can roast them like kale chips too. The peeled young stem, after it's been parboiled 1 minute to make peeling the rind easier, is like spicy celery, excellent in salads, or cooked in a wide range of vegetable dishes. Use it before it becomes too fibrous.The mild-flavored flowers are insubstantial and take a bit of time to collect, but if you've the patience to harvest them, they'll

add color to salads, and they make a fine, exotic garnish. You can also grind the roasted seeds and use them as a peppery seasoning.

The roots haven't been analyzed nutritionally, but the leaves contain quercetin, a bioflavonoid that keeps blood vessels healthy. A poultice of the root is used for bruises and to speed wound healing, but hasn't been tested. A tea made of the dried roots has been used for menstrual cramps, but I haven't had a chance to try it yet! Oil pressed from the seeds, which you must buy, contains gamma-linolenic acid, gamma-linoleic acid (an anticlotting agent), and vitamin F (essential fatty acids). Gamma-linoleic acid is turned into the prostaglandin PGE1 in the body. This short-lived, fatty hormone regulates many metabolic functions. It's used for menopause, rheumatoid arthritis, memory loss, alcoholism, weight loss, bronchitis, eczema, chronic fatigue, multiple sclerosis, attention deficit disorder, and to prevent heart disease. There are indications that it's beneficial for some of these conditions, but research is incomplete.

Caution: Don't use this plant if you suffer from epilepsy. It can also cause headaches, skin rashes, and nausea in sensitive individuals.

RECIPE

Primrose Quinoa Soup

North American peppery common evening primrose and South American nutty quinoa complement each other perfectly, so with a few other vegetables and appropriate seasonings, they lead to a wonderful, filling soup.

¼ cup olive oil

2 cups common evening primrose root, sliced

2 carrots, sliced

2 celery stalks, sliced

4 scallions, sliced

2 garlic cloves, chopped

4 cups vegetable stock

2 tbsp arrowroot or kudzu

2 tbsp white (mellow) miso

½ cup quinoa

½ cup beluga beans

¼ cup parsley

1 tsp oregano, ground

1 tsp tarragon, ground

½ tsp rosemary, ground

¼ tsp black pepper, or to taste, ground

1. Sauté the common evening primrose, carrots, celery, scallions, and garlic in the olive oil for 10 minutes.
2. Meanwhile, mix the arrowroot and miso into the stock.
3. Rinse the quinoa in a strainer with cold, running water for 1 minute, to remove the bitter saponins.
4. Combine all ingredients in a saucepan and bring to a boil over medium heat, stirring often.
5. Reduce the heat to low and simmer, covered, for 20 minutes or until the quinoa is tender.

Serves: 6

Preparation time: 30 minutes

Cooking time: 20 minutes

Wild Carrot
(*Daucus carota*)

Family: Apiaceae or Umbelliferae, the umbelliferous, celery, carrot, or parsley family

Other name: Queen Anne's lace, bird's nest, bishop's lace

This is one of my favorite root vegetables. It's quite common, and there are habitats where the roots are quite large. Its deadly look-alike that's not hard to differentiate, if you pay attention to the salient distinguishing carrot-teristics! This European biennial is the same species as the store-bought carrot, only it went feral and reverted to the subspecies that's the ancestor of the familiar orange variant. The first year carrot produces a basal rosette only. This consists of long-stalked, oblong, lacy, feather-compound leaves growing up to 10 inches long and 4 inches wide. These divide two or three times, and arise from hairy leafstalks. It appears very early in the spring. Under the center of the rosette, you'll find a taproot, 2–8 inches long, that smells strongly of carrot and usually produces side branches. The plant dies to the ground when winter comes, but the rosette returns early the following spring. Then, in mid-spring,

the second-year plant grows an upright, branched, hairy stem, 2–3 feet tall. The alternate leaves look just like the basal leaves, only smaller. Twice-branched, flat-topped, terminal flower clusters, 3 inches wide (configured like the spokes of an umbrella), appear on tops of the stems in the summer and early autumn. At the tip of the umbrella spokes, you'll see tiny, white, five-petaled flowers called florets, ⅛ inch across. Many flowers mean more pollination and lots of seeds, and because so many flowers are clustered together, they're as visible to the pollinating insects as they're to us. This flower head is what people recognize as Queen Anne's lace. Often, in the center of the cluster of white florets, there's 1 purple floret, symbolizing a drop of blood that fell when Queen Anne pricked her finger with a needle while stitching her lace. In mid-summer and fall, the florets fall off, then the flower head contracts and becomes concave (like a cup or bird's nest), and umbels of tiny, bristly, ovoid, ribbed seeds, about ⅛ inch long, develop. They go from reddish purple to green, and finally become brown. The skeleton of the stems and seed heads persist into early spring.

Botanical manuals list wild carrots as growing in sunny, dry, sandy soil, open fields, meadows, roadsides, disturbed habitats, and pastures, but the roots vary in size. The best places to collect them are dry, sandy fields, especially near the seashore, where the plants get lots of sunlight and little competition from grass or other plants, which do poorly under such conditions. The other place for big carrots is in pastures, where they take advantage of the extra nutrients released into the soil by the manure. Dig up the roots of plants in the basal rosette form in early spring and fall (you can't find them in the winter), when they store food. In mid-spring, the food disappears from the root and is distributed to the aboveground parts. A shovel is the best implement for harvesting, but smaller hand tools, and even pointed sticks, will work too, especially in sandy soil. The seeds ripen in late summer. I used to think they perished in the winter, but my then-ten-year-old foraging expert daughter,

Violet (who knows all the plants and co leads many of my foraging tours), took a closer look and found completely good, fragrant seeds in what I thought were dead seed heads in early spring, meaning that you can collect them throughout the winter too! Break off the seed heads while the seeds are still somewhat green, or brown, and use them fresh or dried. It's easy to pull the seeds off the seed head, and a small amount goes a long way.

Wild carrots are tougher, stronger tasting, and less sweet than store-bought carrots. Unless you like to chew a lot, they're not as good in salads, but way better in cooked recipes, from soups to carrot cakes, where their texture becomes chewy rather than mushy. They cook in about 15–20 minutes. Some people eat the flowers, but I don't care for their somewhat bitter flavor. The leaves are nonpoisonous, but, again, too tough for most people to eat, unless you like eating the carrot tops of store-bought carrots. However, if you make your own soup stock, where you boil strong-tasting veggies with herbs, then

strain them all out in the end, they're a wonderful addition. Carrot seeds, on the other hand, have become one of my favorite savory seasonings, excellent in sauces, soups, stews, and a large variety of savory dishes. They're a little like caraway and celery seeds, but more versatile, and they also enhance the flavor of wild carrots. The raw seeds are much stronger tasting than dried ones.

Because they're not orange, wild carrots lack the beta-carotene of store-bought carrots, but they do contain vitamins C, D, E, K, B1, B6, and biotin; the minerals potassium, calcium, magnesium, phosphorus, and sodium; and some trace minerals such as lithium, as well as acetylcholine, gamma-linolenic acid, histidine, lycopene, quercetin, tryptophan, tyrosine, and close to fifty other biologically active substances. Various parts of this plant have been used as home remedies for thousands of years. They haven't been tested scientifically, but they're safe for conditions that aren't serious. An infusion of the leaves, flowers, and stems is considered to be a gentle diuretic, stimulating the flow of urine and the excretion of waste by the kidneys. It's also good for bladder problems. It's supposedly a carminative, as is a tea of the seeds, soothing the digestive tract and useful for digestive disorders and gas. The leaves contain porphyrins, which stimulate the pituitary gland to signal the gonads to increase sex hormone levels. It also stimulates the uterus and brings on delayed menstruation, so don't drink this tea if you're pregnant. On the other hand, the increase in sex hormone levels is supposed to make this tea an aphrodisiac. Unfortunately, this isn't true. A girlfriend and I disproved it: We made ten cups of carrot leaf tea, and only the first six worked! Eating a teaspoon of crushed seeds has been used for birth control, and was used by Hippocrates (who never became pregnant). It does interfere with implantation of the embryo into the uterus of mice, and it blocks progesterone synthesis in humans, so it could reduce the risk of pregnancy in humans, but it's only completely effective when you also hold one carrot seed firmly between the knees!

Caution: Poison hemlock (*Conium maculatum*) looks so much like wild carrots at all stages that some foraging teachers won't include wild carrots in their foraging classes or books, although they're not hard to tell apart. The leafstalks of wild carrot are hairy. You just have

to look at them closely to see the hairs. Remember, Queen Anne had hairy legs! Poison hemlock and, its somewhat less deadly similar relative, fool's parsley (*Aethusa cynapium*) have as much hair as the top of my head (none)! The roots of wild carrots smell strongly of carrots. Its poisonous relatives smell musty and unpleasant. If the root doesn't have a clear and distinct carrot smell or the plant has no hairs on the leafstalks, don't eat it. Poison hemlock stops the brain from communicating with the heart and lungs, causing paralysis and death. The ancient Greek philosopher, Socrates, considered the wisest man in the world, was executed with poison hemlock at the age of seventy for "corrupting the youth," by teaching independent and critical thinking, something no educator has ever dared to do again in the intervening 3,000 years: It's called No Child Left Behind!

Fortunately, poison hemlock isn't always fatal. In fact, there's a famous American who wouldn't be harmed by this plant: Donald Trump — he has no brain and no heart!

RECIPE

Beluga Dal

Beluga beans cooked with Indian spices and wild carrots are filling, tasty, and satisfying. (Note: No whales were harmed in the production of this recipe!)

6 cups vegetable stock

2 cup beluga beans

6 tbsp vegan butter substitute or olive oil

1 cup wild or store-bought carrots, grated

1 4-inch stick of sassafras root, or 1 cinnamon stick

⅓ cup field garlic or 2 scallions, chopped

½ tsp coriander seed, ground

¼ tsp cayenne hot pepper, or to taste (optional)

¼ cup white (mellow) miso

1. Simmer all ingredients together except the miso for 40 minutes or until the beans are tender.

2. Drain and stir the miso into the liquid.
3. Remove the sassafras or cinnamon.
4. Pour the liquid with the miso back into the mixture.

Serves: 6–8
Preparation time: 10 minutes
Cooking time: 40 minutes

Wild Parsnip
(*Pastinaca sativa*)

Family: Apiaceae or Umbelliferae, the umbelliferous, celery, carrot, or parsley family

This feral European vegetable escaped cultivation to become both uglier and tastier, with a single, thick, whitish taproot that can grow over 1 foot long that smells like store-bought parsnips. A biennial, it starts growing in early spring as a basal rosette, 6 inches high. Its large, stalked, unbranched, feather-compound leaves get close to 1 foot long and 4 inches wide. From five to fifteen, variable, coarse, ovate to oblong, deeply lobed, saw-toothed leaflets extend from both sides of a midrib. The basal rosette reappears at the same time the second year, followed by a stout, deeply grooved, hollow, branching, hairless stem in mid-spring. This grows from 3 to 5 feet tall. Long-stalked, flat-topped, terminal, umbrella-like flower clusters appear at the top of the stems, without bracts. The stems divide twice, ending with fifteen to twenty-five umbrella-like clusters of twelve to thirty-five long-stalked, yellow flowers—hundreds of five-petaled flowers, ⅛ inch across, in total. The flowers develop into long-stalked seeds in late summer and fall, which may persist into the winter. Growing ¼ inch long, they're flat, oval, ribbed, and fragrant.

As with many edible biennials, the taproot under the basal rosette is good to eat from fall through early spring, although you can't find it in the winter, when there's no foliage. Once the flower stalk appears, the root becomes as tough as wood. You can still cook it, but it'll taste like cooked wood!

Water hemlock (*Cicuta maculata*) has basal leaves that may look like wild parsnip's, but some are divided twice instead of once, the flowers are white instead of yellow, and instead of a single taproot, its fleshy roots grow in bundles. Beware! The two plants can grow side by side, and one bite of water hemlock, North America's deadliest plant, can kill. Poison hemlock's (*Conium maculatum*) leaves are much more finely divided than wild parsnip's. The flowers are white, not yellow. The stem has purple blotches, and the roots smell musty, not like parsnips. Nevertheless, people who have taken no heed of the identifying characteristics of either plant have confused the two and poisoned themselves. On the plus side, unlike water hemlock, it takes several bites to bring on death! Giant hogweed or giant cow parsley (*Heracleum mantegazzianum*) has feather-compound leaves and umbrella-like flowers, like the wild parsnip, but it's much larger, from 6 to 15 feet (sometimes 21 feet) tall, with a stout, bumpy, bristly, dark reddish-purple stem and hollow, spotted leafstalks. The leaves get 3–5 feet long. Contact causes such a severe rash that public officials, terrified of equally awful lawsuits, assiduously have it eradicated whenever it's spotted, so I have yet to see it myself.

Except for a few southern states, wild parsnips grow throughout North America, in sunny spots on damp, disturbed soil. You'll find them in empty lots, wetlands, fields, and edge habitats, along roadsides, and near the seashore. Dig up the taproots with a shovel or trowel. Don't touch the leaves without gloves (or put your hands inside a plastic bag) if your skin is sweaty and you're subsequently exposed to sunlight, or you might get a severe, blistering rash. Use the root like store-bought parsnips, cooked about 20 minutes, in soups, stews, casseroles, or any dish that calls for cooked root vegetables. They're good steamed too, but don't be shocked by how much sweeter and flavorful it is than parsnips you buy. The roots are marginally edible raw, but tough and stringy, and eating too much raw may have a laxative effect.

Don't eat other parts of this plant: Back in the early 1980s, at the very onset of my career, I appeared on a Manhattan public access cable-TV show, when cable-TV was new, called *The Coca Crystal Show*. As indicated by the title, the people running the show (who were very friendly and supportive of my work) were all refugees from the 1960s, but after demonstrating wild plants, including wild parsnips, through a choking haze of marijuana and tobacco smoke, I got to meet an aged man named Vincent Titus, who regularly read his poetry on the show. He'd been Ernest Hemingway's drinking buddy and served with him in the Abraham Lincoln Brigade during the Spanish Civil War in the 1930s, fighting with the Communists against the Fascists. Hemingway supposedly modeled Robert Jordan, the hero of his masterpiece *For Whom the Bells Toll*, after Titus! Titus, who passed away the following year, told me that European medieval monks, living in monasteries, had to be self-sufficient, so they ate everything they grew, including parsnip leaves, and this poisoned them! His knowledge of history was convincing (and

he was so old that he might have seen this firsthand!), and no traditional culture uses parsnip leaves or seeds for food, so use only the roots.

Parsnips provide vitamin C, and the minerals calcium, potassium, and phosphorus, plus fiber. They have more calories than most wild foods, something wilderness survivalists always covet. An infusion of parsnip leaves has been recommended for diabetes and for kidney and urinary problems, but they can also lower the blood sugar too much, consistent with their toxicity, and should be avoided.

RECIPE

Wild Turkish Casserole

Slightly thickened with rice and lentils, this mixture of wild and store-bought vegetables melds into a wonderful veggie casserole, prepared in the style of Turkish cuisine.

2 cups curly dock (see p. 94) leaves, or beet greens, chopped

1½ cups wild or store-bought parsnips, sliced

3 tomatoes, chopped

1 red onion, chopped

½ cup burdock root or daikon, thinly sliced

2 celery stalks, sliced

¼ cup fresh dill weed, chopped

¼ cup cilantro or parsley, chopped

¼ cup lentils

2 tbsp long-grain brown rice

2 tbsp za'atar (a blend of seasonings available in Mideast stores and websites)

2 tbsp olive oil

1 tbsp Vege-Sal or ½ tbsp salt, or to taste

2 cloves of garlic, chopped

1. Mix all ingredients together in an oiled casserole dish and bake, covered, in a preheated 350°F oven for 1 hour or until the rice is soft.

Serves: 6

Preparation time: 10 minutes

Cooking time: 1 hour

Wild Ginger
(*Asarum canadense*)

Family: Aristolochiaceae, the birthwort family
Other names: Indian ginger, Canada snakeroot, coltsfoot

This stemless perennial trails the ground, growing from 4 to 12 inches long. A shallow, fleshy, branched rhizome, under ½ inch thick, unites the aboveground parts to form colony, and the whole plant smells like ginger. It has but two leaves. Basal, smooth edged, long stalked, and heart shaped, they grow from 3 to 6 inches across. Growing from the crotch of the two hairy leafstalks and obscured by the leaves, hangs a solitary, slender-stemmed, dark brown-purple flower, blooming from early to mid spring. Three reddish, petal-like sepals fuse to create a protective layer surrounding a cream colored ovary. After ants pollinate it, it develops into a small, leathery, six-parted fruit capsule that ripens in the summer.

Wild ginger grows in partially or fully shaded, undisturbed forests, often near rivers. Violets (see p. 66), which are edible, have heart-shaped leaves, but

they're toothed, unpaired, and odorless, although this didn't stop someone on one of my tours, who wanted wild ginger very badly, from asking whether violets were wild ginger. There are other similar species of wild ginger (*Asarum acuminatum* and *A. reflexum*) that grow in the Northeast, but I haven't found them yet in New York or anywhere else yet. On the other hand, I occasionally see European wild ginger (*A. europaeum*), an introduced plant, with leaves and flowers that are much larger than the native species, escaped from cultivation and spreading in New York and other parts of the Northeast. You can use all these relatives the same way.

One of the common names of wild ginger is coltsfoot, but there's a totally different, unrelated, wild medicinal plant (*Tussilago farfara*) with that name, another reason to check scientific names. A lack of scientific names kept me confused for over three decades: George Washington Carver, a great scientist,

called wild ginger leaves “the acme of wild plants,” but they're awful. Then, in 2014, leading a foraging event in Duke University in North Carolina, I was introduced to a Deep South species of wild ginger (*A. arifolia*), with arrow shaped leaves. Carver lived in the Deep South, so he must have been using the southern species!

Although wild ginger's rhizomes are good all year, and the leaves sometimes persist into the winter, you usually can't find or dig it up then, so the end of early spring through fall are the best times to harvest them. A shovel or trowel makes the rhizomes easy to dig up, although you can sometimes get them with your fingers. Dig only where the plant is very abundant. Use the rhizome, without the roots, fresh, finely chopped, or dried and ground into a powder in a spice grinder, the same as store-bought ginger. The plants are unrelated, but the flavor is quite similar. Wild ginger is superb in fruit dishes, baked recipes, curries, ice cream, pies, pudding, or any other traditional recipe that calls for ginger. It's a great herb tea, steeped for 20 minutes in water just off the boil.

There's no info about wild ginger's nutritional content, but it's an important traditional medicinal plant. Surprisingly, Native Americans independently discovered that it's medicinal uses are similar to unrelated store-bought ginger. They used a decoction of the rhizomes for gastric conditions and nausea, as well as for fever, menstrual cramps, and coughs. They also used it to prevent food spoilage, and it does contain aristolochic acid, which kills bacteria, and a related Asian species is used the same way in traditional Chinese medicine. Native Americans and colonists used the powdered rhizomes like snuff, inhaling it for sinus congestion and headaches. They also applied the crushed rhizomes externally onto inflamed or infected cuts, and onto wounds. They even poured the cooled decoction into infected ears. This has not been tested, but unchecked ear infections can lead to permanent hearing loss. Herbalists also use the rhizome as part of herbal formulas for circulatory system stimulation. However, even though this herb and its relatives have been used for centuries, recent research has shown that the aristolochic acid has caused kidney damage and urinary tract cancer when herbs containing it were used for weight loss, and the FDA has issued warnings about the use of this herb. What to make about this contradictory info? Everyone needs to make

their own choice, but personally, I still use small amounts of wild ginger on rare occasions as a seasoning. I wouldn't use it in quantity, and I don't drink wild ginger tea (I'm not a tea drinker.)

RECIPE

Wild Teriyaki Sauce

With wild ginger replacing commercial ginger and stevia replacing sugar, you can make an authentic, healthful, and very tasty traditional Japanese sauce. Use it in stir-fried dishes and on vegetables. Because the tamari soy sauce is salty, you can eliminate any salt from the recipe you're seasoning with this sauce, or add salt at the table as needed.

1 cup tamari soy sauce

½ cup water

¼ cup mirin (Japanese rice wine) or white wine

2 tbsp arrowroot

4 cloves of garlic

1 tbsp wild ginger or fresh commercial ginger

1 tsp liquid or powdered stevia

1. Purée all ingredients in a blender.
2. Transfer to a saucepan and bring to a boil over medium heat, stirring constantly.
3. Reduce the heat to low and simmer, uncovered, for 5 minutes, stirring occasionally.

Yields: 1½ cups

Preparation/cooking time: 15 minutes

Burdock
(*Arctium minus* and *A. lappa*)

Family: Asteraceae, the aster or composite family

Other names: Love leaves, beggar's buttons, cockle buttons, harebur, gobo, thorny bur, clothbur, gobo

Here's another very tasty common plant—actually two very similar species—that you'll love, once you learn how to harvest and use it. Burdock is a biennial, forming a basal rosette in its first year. The huge, wedge-shaped leaves grow up to 2 feet long and 1 foot across. The leaf's undersurface is whitish, due to a mat of very short, fine hairs. Bitter dock (Rumex obtusifolia), with different food uses, lacks these hairs, and the two plants may grow side by side. Burdock's purple-green leafstalks reach 1½ feet long and ¾ inch across. Common burdock's (*Arctium minus*) are hollow, not furrowed. Greater burdock's (*A. lappa*) are solid, with a groove on the upper surface, and this is the larger of the two species. This Eurasian plant has such a long, deep, stout

taproot that as you dig and pull, it feels like there's a hungry Asian person on the other end pulling in the opposite direction! The root can grow up to 4 feet long and 3 inches wide. With an outer rind and inner core, it's whitish after you scrub off the soil, and smells like potatoes.

The second year, it develops a basal rosette again in early spring, then bolts in mid-spring, growing an erect stem from the center of the rosette. This reaches 2–5 feet in height in common burdock, and up to 9 feet tall in greater burdock. The stem's alternate leaves are smaller than but similar to the basal leaves, getting progressively smaller toward the top. Tiny, purple-pink flowers coat the spherical, composite flower heads, which which look like purple shaving brushes, extending from spherical, green bases. Common burdock's flower heads are short-stemmed and ¾ inch across. Greater burdock's are long-stemmed and 1½ inches across. The light brown burrs are also spherical and the same size as the flowers. They're coated with tiny hooks, so after they stuck to the dog of Swiss electrical engineer, George Mestal, in 1941, they inspired him to invent Velcro. Many small, hard, curved, inedible brown seeds grow inside. People have confused cocklebur (*Xanthium* spp.) with burdock because it also has burrs, but they're arranged in spirals, and the rest of the plant is completely different from burdock. You'd have to be very careless to poison yourself with this plant.

Burdock can grow in full sun or partial shade. It's especially common on disturbed soil, and also grows in backyards, untended gardens, empty lots, overgrown fields, meadows, edge habitats, and urban parks. You can eat the root of the first-year plant from early spring until the leaves disappear in late fall. It's deep, so look for it where the soil is loose, not rocky. Use a shovel if possible. A trowel is harder work. Harvest after it's rained, when the soil is loose. The Japanese remove and discard the outer layer of the root for cosmetic reasons. This is unnecessary, and you're throwing away half your work. Scrub the root with a metal scouring brush under running water to remove the soil. Slice as thinly as possible, using the finest blade of a food processor, or a sharp knife and diagonal cuts. Cook in moist heat (in soups, stews, rice, or casseroles) for at least part of the preparation, to tenderize the otherwise-tough root. Burdock root has an earthy, potato–artichoke flavor, great in a wide variety of recipes that call for roots. After only 32 years, it occurred to me that the tough texture could be used to advantage, so I steamed, marinated, and

baked the slices, resulting in vegan beef jerky (see the accompanying recipe), which everyone on my tours loves.

Once the stem of the second-year plant appears, in mid-spring, the root becomes too tough to eat, but these young stems, up to 1½ feet tall, are delicious too. For 31 years, I laboriously peeled the stems, parboiled them for 1–2 minutes to get rid of the bitterness, and used them like artichoke hearts. They're delicious, but I finally realized I was wrong. You parboil the stems first, let them cool, then peel them in a fraction of the time it takes to peel them raw. The parboiled stems are great in nearly any vegetable, bean, or grain dish, but they're only in season for a couple of weeks, around the end of mid-spring and the beginning of late spring. Fortunately, they freeze well after they're cooked. Some foragers use the leafstalks in the spring, summer, and fall, the same way as the immature stems. It's more work for less food, but it's doable, especially with greater burdock. The leaves are so bitter, no matter how you prepare them, that, unless you're a goat or iguana, they taste as bad as English food!

Burdock root is a good source of vitamins B6 and C, plus the minerals magnesium, phosphorus, potassium, manganese, and sodium. It's an excellent source of inulin, a polysaccharide that doesn't provoke an insulin response and isn't absorbed through the digestive tract. It's great for people with diabetes or low blood sugar. A decoction is considered to be a blood purifier or detoxifier in traditional European and East Asian herbal medicine, and burdock root is sold to use as a tea in health food stores for skin, liver, and kidney problems. It hasn't been tested scientifically, and drinking the tea makes no sense to me, since you can eat the delicious root and get any medicinal benefits it may convey that way. A poultice made with the chopped leaves, clay (you can substitute fresh kitty litter), and water (sometimes along with spearmint leaves) is the best home remedy for bruises, and I've seen it work more than once. Burn care workers have used the leaves to inhibit bacterial growth, speed healing, and ease the changing of dressings for burn victims, but I'm not aflame to try this out on myself!

RECIPE

Vegan Beef Jerky

Burdock root isn't as soft as commercial root vegetables. In fact, it can have a chewy texture. You can turn this into an advantage by marinating slices with the kinds of ingredients traditionally used for making jerky, then slowly baking it to create something similar, but more healthful, human, and environmentally sound than the original.

2 cups vegetable stock

4 cups of burdock root, thinly sliced

3½ cups Savory Marinade (see below)

1. Pressure cook the roots in a steamer rack over the stock for 5 minutes, or steam them for 30 minutes. Reserve the stock for other recipes or use it as a tea.
2. Combine the burdock with the Savory Marinade and marinate overnight, stirring occasionally if possible.
3. Drain (you can use the marinade repeatedly) and allow to cool.
4. Spread the burdock strips onto 3 nonstick baking pads placed on 3 cookie sheets, or onto 3 oiled cookie sheets.
5. Bake in a preheated 300°F oven for 30–40 minutes or until chewy, but not crisp.

   Yields: 3 cups

   Preparation time: 30 minutes

   Marination time: 6 hours to overnight

   Cooking time: 30 + 40 minutes

RECIPE

Savory Marinade

Here's a simple basic marinade you can use to add additional flavor to everything from mushrooms to tofu. Just soak the food in the marinade from 6 hours to overnight, refrigerated. Then drain and bake. Foods cooked in this way come out fantastically flavored, even if they're bland beforehand.

1 cup apple cider vinegar

1 cup apple juice

1 cup sesame oil

½ cup olive oil

½ cup wine vinegar

½ cup tamari soy sauce

5 peeled, uncut cloves of garlic

1 tbsp bayberry leaves or ½ tsp bay leaves

½ tbsp of fresh wild or commercial ginger, chopped

1 tsp liquid stevia

1 tsp smoked paprika

1 tsp chili paste or hot sauce, or to taste

½ tsp black peppercorns

¼ tsp whole cloves

1. Place the peppercorns, cloves, and bayberry leaves in a mesh bag or tea ball, so they don't get mixed up with the foods to be marinated (optional).
2. Combine all ingredients.

   Yields: 4½ cups

   Preparation time: 5 minutes

RECIPE

Burdock Stem Casserole

This is a like a typical casserole, with layers of pasta and sautéed vegetables, plus a sauce, and some "cheese." The difference is an especially delicious sauce, plus wild burdock's especially tasty stems.

¼ cup olive oil

1 large red onion, chopped

1 yellow or red bell pepper, chopped

2½ cups parboiled, peeled, immature burdock stems, coarsely sliced

½ tsp Vege-Sal or ¼ tsp salt, or to taste

2 tomatoes, chopped

3½ cups slightly undercooked, whole-grain fusilli, or other pasta

3½ cups Garlic Sauce (see below)

¼ cup vegan Parmesan cheese

1. Sauté the onion in the olive oil for 10 minutes.
2. Add the bell pepper, burdock stem, and Vege-Sal, and sauté for another 10 minutes.
3. Pour half the Garlic Sauce into an oiled baking dish.
4. Spread the pasta onto the sauce.
5. Spread the tomatoes onto the pasta.
6. Spread the sautéed vegetables on top of the tomatoes and pasta.
7. Pour the rest of the Garlic Sauce on top of the vegetables.

8. Sprinkle the vegan Parmesan on top of the sauce.
9. Bake in a preheated 350°F oven for 40 minutes or until bubbly.

Serves 6–8

Preparation time: 40 minutes

Cooking time: 40 minutes

RECIPE

Garlic Sauce

This creamy sauce is great to pour on vegetables or to use in casseroles. Garlic that's peeled but not cut has a much more mellow flavor than cut garlic.

¾ cup silken tofu

2 cups almond milk, soy milk, or other nondairy milk

⅓ cup olive oil

½ cup lecithin granules

16 cloves of garlic, peeled but not cut

2 tbsp arrowroot

1 tsp nutmeg, ground

1 tsp oregano, ground

½ tsp liquid stevia

½ tsp black pepper, ground

¼ tsp Vege-Sal or ⅛ tsp salt, or to taste

1. Combine all ingredients in a saucepan and bring to a boil over medium heat, stirring constantly.
2. Reduce the heat to low and simmer, covered, for 10 minutes, stirring often.
3. Purée in a blender.
4. Add more Vege-Sal or salt to taste, if desired.

Yields: 3½ cups

Preparation/cooking time: 20 minutes

Seaweeds

You can collect seaweeds all year, although it's certainly more difficult under winter conditions. The edible seaweeds, again, are delicious, and thanks to the popularity of Japanese cuisine. They're a familiar food nowadays, unlike when I first began foraging, when eating seaweeds was considered weird.

Japanese cuisine, naturally, uses Pacific seaweeds. We have some Atlantic species available with great culinary potential that haven't been explored by chefs. I'm happy to have experimented with them and discovered some great ways of using them.

Irish Moss
(*Chondrus crispus*)

Family: Gigartinaceae, a red algae family

Other names: Sea moss, blancmange, jelly moss, pearl moss, carrageen moss, seamuisin, curly moss, curly gristle moss, dorset weed, sea moss, white wrack, pioka

This is a short, frilly, fan-shaped, perennial seaweed that grows on both sides of the Atlantic. It reaches up to 6 inches in length and feels soft and cartilaginous. Tough and elastic when wet, it gets brittle when dry. It's more colors than any plant in this book. Usually dark purple-brown or blackish, it may also be greenish-yellow or red. It's iridescent-blue underwater, and the sun can bleach it white.

It grows from a disk-shaped holdfast, and its short stalk branches four or five times, creating a variable, fan-like shape, with subsections up to ¾ inch across. It ends in crowded, frilled-looking tips. No other seaweeds look like it.

It's in season all year. Look for it at low tide. If it's been detached from its anchorage by storms and the currents are right, you can find enough washed up on the beach to last for years, and it's easy to dehydrate. You can also find it in tidal pools, and in lower intertidal and shallow subtidal zones.

Irish moss is too tough to eat, so you simmer it for 20 minutes or more enclosed in a mesh bag or cheesecloth, then remove and discard it. It contains carrageenan, a traditional thickener for puddings that's also used in many commercial products. Carrageenan dissolves into your recipe: 1½ cups fresh Irish moss, or ½ cup of dried seaweed, thickens about 3½ cups of liquid. The Irish use it to thicken milk (as a vegan, I use nondairy milk) and make a pudding called blancmange.

Irish moss is a good source of vitamin B1, beta-carotene, and the minerals iodine, sulfur, potassium, calcium, phosphorus, iron, sodium, manganese, and bromine. It also contains mucins, protein, and a little fat.

Irish moss is nutritious and easy to digest, so puddings made with it are traditionally given to convalescents, especially people recovering from tuberculosis and pneumonia. Carrageenan is considered an anticoagulant, an anti inflammatory, a demulcent, an emollient, an expectorant, and a tonic. Because it coats the digestive tract, it's used to sooth peptic and duodenal ulcers, and given for gastritis and colon disorders.

It's a traditional remedy for thyroid problems such as goiter, and if the cause is an iodine deficiency, it'll work. It's also used for obesity, although there's no evidence showing that this works.

It's used to relieve diarrhea and help form bulky stools, and there's evidence that it can lower high blood pressure. Research has demonstrated antiviral properties, supporting its traditional use for irritating coughs, bronchitis, and other lung problems, some of which are caused by viruses.

A syrup of Irish moss, rose hips, honey, and lemon has been used for sore throat. A decoction helps heal chapped hands. Irish moss is also supposed to be help treat radiation contamination, but it needs to be tested. Anyone here interested in a trip to Fukushima?

Reports warn that Irish moss is dangerous because processed extracts are toxic, but carrageenan doesn't get into the bloodstream, no toxins get absorbed, and people have been using this food for thousands of years without problems.

RECIPE

Seaweed Pudding

A pudding made with seaweed sounds strange, but Irish moss has been used as a thickener for pudding for centuries, and it works perfectly here with chocolate and fruit.

3 cups coconut milk or other nondairy milk

½ cup dried Irish moss or 1½ cups fresh Irish moss

1 banana, sliced

¾ cup raspberries

1 orange, sliced, seeds removed

1 tsp liquid or powdered stevia

½ tsp cinnamon

½ tsp freshly grated lemon rind or lemon extract

¼ tsp salt

½ cup pecans, chopped

1. Tie the Irish moss into a bag of cheesecloth, or use a small mesh bag with a draw string.
2. Place this in a saucepan with all the remaining ingredients except the chocolate and pecans. Bring to a boil over medium heat, stirring often.
3. Reduce the heat to low and simmer, uncovered, for 15 minutes, stirring occasionally.
4. Remove the bag with the Irish moss and wring out any leftover material into the pudding when cool enough to handle (or wear rubber gloves if you don't have the patience to wait).
5. Stir in the chocolate until it's melted.
6. Chill until set.
7. Serve topped with the pecans.

   Serves: 6

   Preparation time: 30 minutes

   Cooking time: 15 minutes

Rockweed
(*Fucus vesiculosus*)

Family: Fucaceae, a brown algae family

Other names: Bladderwrack, bladder fucus, sea wrack, kelp ware, black-tang, cutweed, sea oak, dyers fucus, red fucus, rock wrack

Rockweed is so good, I love it even though I'm a jazz fan! This olive-brown seaweed grows up to 3 feet long and ½ inch wide. Yellowish when young, it's composed of many wavy, flat, fan-shaped, ribbon-like strips that repeatedly bifurcate, like the letter Y.

A midrib divides each strip, and distinctive, paired, ovoid air vessels, ½–¾ inch long, grow at regular intervals. These are the bladders, whereas "wrack" means seaweed. Similar white-tipped bumps, up to 1 inch long, grow at the seaweed's tips. Filled with jelly, they're the seaweed's reproductive organs. A woody, branched, discoid holdfast anchors the alga to the rocks—hence the other common name, "rockweed."

It grows in the North Atlantic, and similar relatives you can use the same way inhabit the North Pacific. Pick it off the rocks at low tide (or gather from beaches if a storm has washed it onto the shore), but walk very carefully or

wear hiking shoes with cleats, as the wet rocks are very slippery, especially in the winter, when they can be icy as well.

It's an Atlantic seaweed, so it's not used in Japanese cuisine. Therefore, restaurant chefs don't know about it. You won't find it in restaurants, health food stores, or Japanese markets—where you can find better-known Pacific seaweeds.

Nevertheless, this is a very tasty seaweed, somewhat similar to hiziki and kelp, with a fishy overtone that makes it outstanding in vegan mock seaweed recipes. Because it contains sodium, don't add any salt to recipes that include rockweed until the recipe is done and you've tasted it, in case it's already salty enough.

You can simmer rockweed in soups, stews, grain dishes, and bean recipes (where it reduces gas) for 15 minutes or until it's tender. The air bladders are especially good. They taste like pickles, so superb when sliced and added raw to

salads and in sandwiches, in place of pickles. Rockweed can overpower other ingredients, but preboiling it in water for 2 minutes makes it more mild.

You can also dehydrate rockweed, then roast it in a slow oven with a tiny amount of oil, and spices, to make chips. Parboiling it briefly and roasting it with a flavored coating works especially well too.

Rockweed provides sodium, iodine, bromine, sodium, potassium, and chlorine, as well as alginic acid and many trace minerals.

This is a major tradition medicinal plant, and many of its uses have been verified by modern science. It's been used for thyroid problems and goiter for centuries. If the cause is iodine deficiency, it would solve the problem, although it's not as good as using carefully measured dosages of iodine.

It's used in weight loss products, none of which really works, unless, again, the weight gain is caused by iodine deficiency–related thyroid problems.

Rockweed reduces cholesterol levels and acts as a weak blood thinner, upholding its tradition use for heart disease. It contains mannite, an osmotic diuretic agent and a weak renal vasodilator, justifying its traditional use for kidney and bladder inflammation.

Only its external use for arthritis, rheumatism, enlarged or hardened glands, burns, and scalds haven't been tested, nor whether chewing it works for bleeding gums, something usually caused by infection.

RECIPE

Rockweed Trail Mix

This is the best compact food to take with you when foraging. It doesn't weigh much. It's very filling, extremely simple to make, provides sustained energy, and tastes great.

2 cups Chocolate Rockweed (see below)

2 cups roasted cashews, chopped

2 cups vegan, sugar-free carob chips, or chocolate chips

2 cups raisins or currants

½ tsp powdered stevia (optional)

1. Mix together all ingredients.

   Makes 8 cups

   Preparation time: 5 minutes

RECIPE

Chocolate Rockweed

These chocolate-flavored, candied seaweed chips are a great snack food, a wonderful addition to trail mix, and a superb addition to salads. You can even sprinkle them on vegetable dishes. They take a long time to bake, but make them on a day when you're going to be home anyway, and it'll be well worth the wait!

10 cups rockweed

1 cup Chocolate Coating (see p. 269)

1 tsp cinnamon

1 tsp powdered or liquid stevia

1 tsp chocolate extract

1. Boil the rockweed in water for 2 minutes.
2. Drain and mix it with the remaining ingredients.
3. Bake in a roasting pan in a preheated 325°F oven for 5 hours or until crisp, stirring occasionally.

   Yields: 6 cups

   Preparation time: 15 minutes

   Cooking time: 5 hours

Sea Lettuce
(*Ulva lactuca*)

Family: Ulvaecea, the sea lettuce family

This common seaweed looks like bright or dark green, plastic, shrink wrap. Soft, translucent, and filmy, it's sometimes rounded, wrinkled, and perforated with holes. The sheets grow from 6 inches to 3 feet across, undivided and without lobes. It's often torn before being washed up onto beaches. Lying on the beach, it may get bleached white by the sun, or discolor black as it dries out or decomposes. The discoid holdfast that anchors it to rocks rarely gets washed ashore. No other seaweed looks like this one.

Although it's an annual, it can grow all year, although I find it in abundance from early summer to early winter around the New York shores. You can find it along the seashore, on submerged rocks and shells, or in the intertidal zone. It's often washed up on beaches. Avoid collecting it in polluted waters, where it thrives.

Pick up this member of the sea lettuce family, which grows worldwide, from the shore or from the ocean; bag it; and refrigerate it until you're ready to use it.

Rinse it thoroughly under running water in a colander set into a low bowl to get rid of all the sand. Change the water in the bowl several times and make sure all the grit is gone.

It's edible raw, but somewhat tough. Sautéed with garlic in olive oil and sprinkled with tamari soy sauce at the end, it's fantastic. It's also great in soups or stews, or stir-fried. It cooks in 10–15 minutes, and you can freeze it afterward. Like other seaweeds, it tastes a little fishy, so it's superb in vegan mock seafood dishes.

Sea lettuce isn't used medicinally, but it's an excellent source of iron, protein, iodine, aluminum, manganese, and nickel. It also provides beta-carotene, B-complex vitamins, vitamin C, starch, fat, and sugar.

RECIPE

Sautéed Sea Lettuce

Sautéing sea lettuce like a land vegetable, with garlic and other seasonings, is simple but effective.

3 tbsp olive oil

4 cups sea lettuce, thoroughly rinsed and chopped

2 cloves of garlic, finely chopped

1 tbsp fresh dill weed, chopped, or 1 tsp dried dill weed, ground

¼ tsp oregano, ground

¼ tsp savory, ground

¼ tsp black pepper, ground

1 tsp tamari soy sauce, or to taste

1. Sauté all ingredients except the tamari soy sauce in the olive oil for 10 minutes.
2. Stir in the tamari soy sauce.

Serves: 4–6

Preparation/cooking time: 15 minutes

GLOSSARY

Achene: A small, dry, one-seeded fruit that doesn't open to release its seed

Agar: A gelatinous substance extracted from various kinds of red seaweed (class Rhodophyceae) that's used in biological culture media and as a thickener in foods, such as traditional Japanese puddings called kanten; also an excellent vegan alternative to gelatin, with the additional advantage of remaining solid at room temperature

Aggregate Fruit: A compound fruit in which one flower contains several ovaries, each of which develops into a small fruit, joined together tightly with its neighbors to make a larger fruit

Alterative: A treatment or medication that restores health

Alternate Leaves: Leaf attachments are singular at nodes and leaves alternate direction, to a greater or lesser degree, along the stem

Anodyne: A painkiller

Anthelmintic: A substance used to kill parasitic worms

Anther: The part of a stamen (male floral reproductive organ) that contains the pollen

Aperient: A substance that's good for constipation

Axillary: Arising from the leaf axil, where the leafstalk or leaf emerges from the stem

Basal Leaves: Leaves at a plant's base

Basal Rosette: A circular arrangement of leaves with all the leaves at the base of the plant, near the soil

Bilaterally Symmetrical Flowers: Flowers with identical right and left sides that are like mirror images

Bract: A modified or specialized leaf, especially one associated with a reproductive structure such as a flower—often different from other leaves

Bramble: Plants of the genus *Rubus*, in the rose (Rosaceae) family, usually prickly

Bundle Scar: The markings within a leaf scar where circulatory bundles were broken as the leafstalk broke off from the twig

Calyx: The set of a flower's sepals that encircle the petals in the bud stage

Cambium: A layer or layers of tissue, also known as lateral meristem, that are the source of cells for secondary growth, such as the layer just under the bark of a tree—sometimes called "inner bark," though it's not the bark

Cane: A flexible, hollow or woody, usually slender stem

Carminative: An herb that prevents or relieves flatulence

Celtic Salt: A very coarse salt that allows you to taste more salt in recipes where the salt doesn't dissolve, thereby letting you enjoy the flavor of salt while taking in way less sodium than you would using table salt

Chevron: A symbol consisting of stripes meeting at an angle, often worn on uniforms, and sometimes present as a dark triangle on leaves, especially of plants of high rank

Cholagogue: A medicinal substance that promotes the elimination of bile from the system

Composite Flower: A member of the aster family with a flower head usually composed of many tiny, central disk flowers surrounded by many, strap-shaped, ray flowers

Compound Fruit: A fruit that develops from several ovaries of either a single flower or multiple flowers

Compound Leaf: A leaf with a fully subdivided blade, each leaflet of the blade separated along a main or secondary vein

Corm: A short, rounded, underground, swollen stem base that serves as a storage organ

Corolla: The petals of a flower, usually forming a whorl within the sepals and enclosing the pistils and stamens

Counterirritant: A substance used to produce surface irritation of the skin, to counteract underlying pain or irritation

Cyme: A usually flat-topped or convex flower cluster where the main axis and each branch end with a flower that opens before those below or next to it

Deciduous: A tree, shrub, or vine that sheds its leaves annually

Decoction: A method of extraction of herbal or plant material that may include stems, roots, cambiums, or rhizomes by boiling

Demulcent: A substance that relieves irritations or inflammations of the mucous membranes, especially in the mouth, by forming a protective film

Deobstruent: A substance with the power to clear or open the natural ducts of the fluids and secretions of the body

Diaphoretic: A medicine or other agent that produces perspiration

Dioecious: A plant with male and female reproductive organs on different individuals

Disk Flower: Any of the tiny tubular florets, usually fertile, in the central part of the flower head of many members of the aster or composite family

Diuretic: Any substance that elevates the rate of urination

Drupe: A one-seeded fruit with a hard, bony seed cover that doesn't split open, surrounded by a fleshy layer that's inside a thin, flexible skin

Entire: Leaves with no teeth, lobes, or other divisions

Expectorant: A substance that helps bring up mucus and other material from the lungs, bronchi, and trachea

Feather-compound Leaf: A leaf divided into segments (leaflets) arranged on either side of the stem, typically in pairs opposite each other; also called a pinnate leaf

Febrifuge: A medicine used to lower fever

Fibrous Roots: Thin, moderately branching roots growing from the stem

Fiddlehead: The young, curled, edible frond of some fern species

Filament: The slender part of a stamen (the male part of a flower) that supports the anther

Floret: One of the small flowers that make up a flower head

Flower Head: A compact mass of flowers at the top of a stem

Follicle: A dry fruit that's derived from a single female flower and releases its seeds by opening on one side

Food Mill: A device consisting of a bowl, a bottom plate with holes like those in a colander, and a crank fitted with a bent metal blade, to force food through the holes in the bottom plate as the

crank is turned and very useful for foragers who need to separate fruit from hard seeds

Fritter: Food coated in batter and fried

Holdfast: A stalked organ that a seaweed or other organism uses to attach itself to its substrate

Infusion: A beverage or remedy made by soaking plant parts in liquid, usually water just off the boil

Konjac: *Amorphophallus konjac*, a little-known Far Eastern plant, used as a thickener for hundreds of years, and available in powdered form in health food stores and online.

Leaf Axil: The upper angle between a leafstalk and the stem that bears it

Leaflet: Each of the leaflike structures that together make up a compound leaf, or a part of a compound (segmented) leaf that may resemble an entire leaf, but doesn't grow on a stem like a real leaf, rather on a vein of the whole leaf

Lecithin: A fat essential found in the cells of the human body and an excellent vegan substitute for egg yolks, available in health food stores and online

Lenticel: One of many raised pores in the stem of a woody plant that allows gas exchange between the atmosphere and the internal tissues

Marmite: A sticky, dark brown, flavorful, salty, British, yeast-based food paste, available in health food stores and online

Multiple Fruit: A compound fruit in which several flowers, each with an ovary, develop into small fruits clustered or fused together to form a larger fruit

Nutlet: A seed covered by a stony layer

Opposite Leaves: Leaf attachments that are paired at each node

Palmate-compound Leaves: Leaves consisting of leaflets or lobes radiating from the base of the leaf

Panicle: A loose, branching flower or seed cluster

Parasiticide: A medicine or agent that kills parasites

Parboil: Cook partially by boiling

Pectoral: A medicine for relieving disorders of the chest or respiratory tract

Perennial Herbaceous Plant: A perennial is a plant that lives many years, and an herbaceous species has no woody parts, so nonwoody plants such as common milkweed, which has underground stems (rhizomes), can die to the ground in the winter, but come back the following year

Phytochemical: A biologically active chemical found in plants

Poultice: A soft, moist mass of material, typically of plant matter, mixed with clay or flour, applied to the body to relieve soreness and inflammation, and tied or bandaged in place with a cloth

Purgative: A strong laxative

Raceme: An unbranched, specialized stem of short-stalked flowers

Radially Symmetrical Flowers: Flowers that can be divided into three or more identical sectors that look the same when you rotate the flower

Ray Flower: A strap-shaped, usually sterile floret that grows toward the periphery of a composite flower, closer to the edge than any central disk flowers if they're present

Receptacle: An enlarged area at the tip of a stem that bears the organs of a flower or a fruit

Reflexed: Bent or turned backward

Rhizome: A characteristically horizontal stem usually found underground, often sending out roots and shoots from its nodes; also called creeping rootstocks or rootstocks

Runner: A usually leafless shoot growing along the surface of the ground from the base of a plant that takes root at points along its length

Samara: A winged nut containing one seed, as in a maple tree

Scape: A long, leafless flower stalk arising directly from the root

Seedpod: An elongated seed container of a member of the legume family that splits open on both sides when ripe

Sepals: Modified leaves, usually green, that lie under the more conspicuous petals of a flower

Shoot: New plant growth, which can include stems, flowering stems with flower buds, or leaves

Simple Leaf: A leaf that's not divided into segments, as in a compound leaf or a lobed leaf

Spike: A type of raceme with flowers that don't have individual flower stalks

Sporophyll: A leaf that bears sporangia, an enclosure in which spores are formed

Spring Ephemeral: A wildflower, usually growing in woodlands, that blooms for only a few weeks in early spring and disappears

Spur: A short flower- and fruit-bearing side shoot

Stamen: The male fertilizing organ of a flower, typically consisting of a pollen-containing anther and a filament

Stevia: *Stevia rebaudiana*, a member of the aster or composite family native to Paraguay, with a sweet flavor but no calories and a great substitute for sugar, sold in health food stores and online

Stigma: The part of a pistil (the female flower parts) that receives the pollen during pollination

Stimulant: A substance that functions as an "upper" and raises levels of physiological or nervous activity in the body

Stipules: Outgrowths borne on either side of the base of a leafstalk

Stomachic: A medicine that stimulates the appetite and aids digestion

Tamari Soy Sauce: A less salty, more flavorful Japanese soy sauce, and an alternative to the more familiar Chinese soy sauce

Taproot: A straight tapering root growing downward vertically and forming the center from which subsidiary rootlets spring

Tepals: Petals and sepals that can't be distinguished from each other

Terminal: At the end or tip

Tincture: A medicine made by dissolving a plant in alcohol, usually vodka

Tonic: A plant or medicine that creates a feeling of vigor or well-being

Umbel: An umbrella-like flower cluster where stalks of nearly equal length arise from a common center and form a flat or curved surface

Vegan Butter Substitute: Products made with vegetable oils and without saturated fats or partially hydrogenated oils that replace butter, such as Earth Balance products, available in health food stores and online

Vege-Sal: A seasoned salt that makes dishes taste salty with half the sodium of table salt, available in health food stores and online

Vegetable Glycerin: A clear, odorless liquid produced from plant oils that makes an excellent sweetener, without the unhealthful effects of sugar and related refined or concentrated carbohydrate sweeteners; also used in cosmetics

Vulnerary: A substance of use in the healing of wounds

Whorled: Three or more leaves attached at each point or node on the stem, often circling the stem

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